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BLUE JAY

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COVERS: **Front** - Canadian Tiger Swallowtail, June 17, 2002 at Sonningdale, SK
Photograph by Juhachi Asai

Back - Bee flies and blister beetle on flower head of narrow-leaved purple coneflower
Photograph by Jason Wolfe

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EDITORS' MESSAGE

It's been two years since our last message and we look back over that time with considerable relief that the magazine has been filling up four times a year and coming out more or less on schedule.

From the beginning, we hoped to encourage submissions reflecting the breadth of natural history. We are pleased that insects have made their way into the pages with some regularity. That they have done so is not too surprising; this large, varied group shares (some would say, impinges upon) our world and receives attention and study from a large, varied group of people. Mammals, amphibians and reptiles also appear in *Blue Jay*, though less often, as fewer people engage in research on these groups and few encounter them in nature. We hear even less about the large and small inhabitants of the water and earth: the fish and water fleas, soil bacteria and dinosaurs. As much is happening in these unseen realms as in the world visible to us, and we welcome articles on these topics, as well as articles on habitat, its value and management.

Several writers have asked recently what kind of material *Blue Jay* publishes. Interestingly, some find the magazine too scientific, while others see it as frivolous. *Blue Jay* publishes a mixture of material: illustrations, poems, straightforward

backyard observations, careful and detailed observations of natural events, as well as checklists and the results of serious scientific research. We try to give each type of article its due; articles with scientific content are peer reviewed, and observations are considered for their contribution beyond what is already known and their interest for the magazine's varied readership. All submissions, however, are subject to the same standards regarding presentation because we feel that the readership deserves writing that is clear, accurate and readable. This is just as important for observations of bird behaviour in the backyard as it is for a scientific paper. Clarity and accuracy are especially important because of *Blue Jay's* role as a repository for detailed information about the natural history of the prairie region. Many who never read the magazine consult it decades later for these details and the record must be clearly laid out and accurate.

That *Blue Jay* sails on is due to the dedicated crew of contributors, associated editors, reviewers, proofreader, indexer and printing staff. The generosity with which these people give their time and share their expertise delights and inspires us. We look forward to 2004 and invite your comments, letters and contributions to the magazine.

- Anna and Ted Leighton, Editors

IMPORTANT BIRD AREAS OF SASKATCHEWAN

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Introduction

The Important Bird Areas (IBA) program is coordinated by BirdLife International, a partnership of non-governmental organizations in over 100 countries that seeks to identify and conserve sites important to bird species worldwide. Through the protection of birds and habitats, it also promotes the conservation of the world's biodiversity.

The IBA concept arose from studies on conservation needs and approaches conducted by BirdLife International and the International Wetlands Research Bureau on behalf of the Commission of the European Community and the Council of Europe. This work culminated in the 1989 publication *Important Bird Areas of Europe* and marked the beginning of the IBA program. IBA programs now exist in Europe, Africa, the Middle East, Asia, and the Americas - which includes Canada, Mexico, the United States and 17 countries in Central and South America.

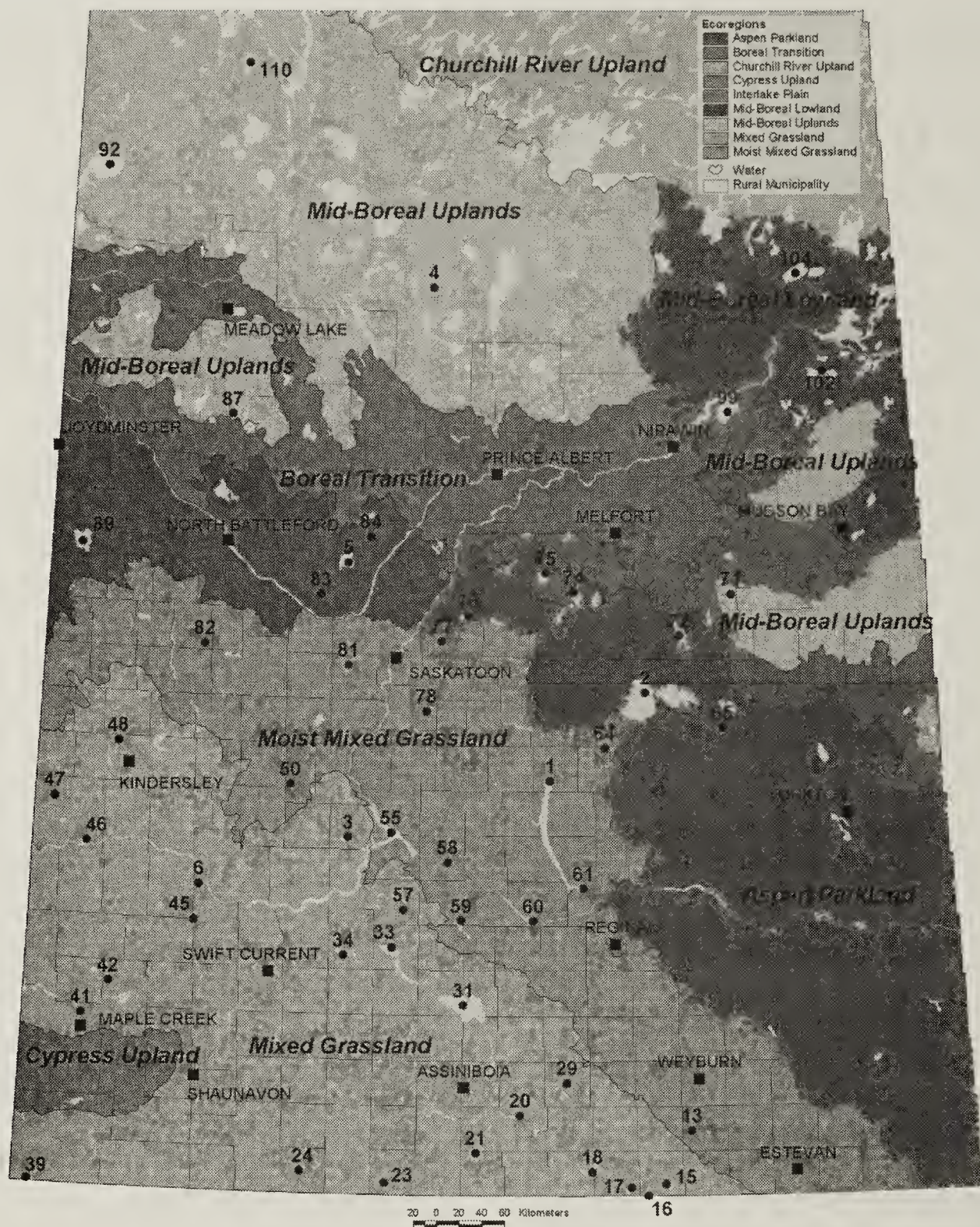
In Canada, BirdLife formed a partnership with the Canadian Nature Federation and Bird Studies Canada¹. Bird Studies Canada is a non-profit conservation organization whose data, gathered by volunteers and professionals, was used for IBA site identification and designation. The Canadian Nature Federation facilitates conservation planning and implementation, working with its provincial partners. In Saskatchewan, IBA is delivered by the Canadian Nature Federation's affiliate, Nature Saskatchewan. Nature

Saskatchewan hired the author as community conservation planner, assisted in securing additional matching funds, participated in meetings with the communities and published the community conservation plans.

Goals of the Canadian IBA program are to:

- identify a network of sites that conserve the natural diversity of Canadian bird species and are critical to the long-term viability of naturally occurring bird populations;
- determine the type of protection or stewardship required for each site, and ensure the conservation of sites through partnerships of local stakeholders who participate in development and implementation of appropriate on-the-ground conservation plans; and
- establish ongoing local involvement in site protection and monitoring.

The emphasis on local community participation in protecting and monitoring conservation areas is a priority in the IBA program. It is based on the belief that meaningful and long-term conservation success depends on the participation of the local community. In this community-conservation approach, the aspirations of the local community are given considerable weight. This approach is rooted in Africa "...where its practice ranges from park outreach programmes in East Africa to southern Africa's radical policies to give back to communities the rights to use and benefit from the wildlife on their land. The latter, in particular, have contributed



● Important Bird Areas

- | | | |
|--|---|----------------------------|
| 1 - Last Mountain Lake NWA | 34 - Reed Lake | 72 - Ponass Lake |
| 2 - Quill Lakes | 39 - Govenlock-Nashlyn-Battle Creek Grasslands | 74 - Lake Lenore |
| 3 - Luck Lake | 41 - Maple Creek Grasslands | 75 - Basin and Middle Lake |
| 4 - Lavalley Lake | 42 - Bigstick Lake Plain | 76 - Buffer Lake |
| 5 - Redberry Lake | 45 - Cabri Area | 77 - Porter Lake |
| 6 - Galloway and Miry Bay | 46 - S Saskatchewan River (Empress to Lancer Ferry) | 78 - Blackstrap Coulee |
| 13 - Colgate Prairie | 47 - Mantario Hills | 81 - Rice Lake |
| 15 - Sandoff Lake | 48 - Kindersley-Elna | 82 - Landis Lake |
| 16 - Alkali Lake | 50 - Barber Lake | 83 - Radisson Lake |
| 17 - Coteau Lakes | 55 - East Lake Diefenbaker | 84 - Blaine Lakes |
| 18 - Big Muddy Lake (and surroundings) | 57 - Paysen/Williams/Kettlehut Lakes | 87 - Midnight Lake |
| 20 - Willow Bunch Lake | 58 - Eyebrow Lake | 89 - Manitou Lake Area |
| 21 - Fife Lake | 59 - Pelican Lake | 92 - Primrose Lake |
| 23 - Grasslands National Park (east) | 60 - Nicolle Flats | 99 - Tobin Lake |
| 24 - Grasslands National Park (west) | 61 - Valeport Marsh | 102 - Cumberland Marshes |
| 29 - Dryboro/Burn Lake | 64 - Kutawagan Lake | 104 - Saggi Lake |
| 31 - Old Wives-Frederick Lakes | 65 - Foam Lake | 110 - Kazan Lake |
| 33 - Chaplin Lake | 71 - Greenwater Lake Provincial Park | |

Fig. 1. Location of 53 Important Bird Areas in 8 ecoregions in Saskatchewan. Numbers are those assigned to each IBA.

significantly to the emerging idea that conservation should contribute to basic human needs rather than conflict with them. This radical revision of a paradigm built on 'fortress conservation' is already incorporated into key international conventions..."²

Site Selection

IBAs are identified as sites that regularly hold significant numbers of one or more of the following: an endangered, threatened, or vulnerable species; endemic species, or species with restricted ranges; an assemblage of species largely restricted to a biome; or sites where birds concentrate in significant numbers during the breeding season, in winter, or during migration. As with other international programs that designate areas for conservation purposes, IBA uses what is called the 1% rule. For a site to qualify under the program, it has to support at least 1% of the national or global bird population of that species to be nationally or globally significant.

The site-based approach is used because certain species depend on particular areas for all or part of the year. However, some species cannot meaningfully be protected in this way and a landscape- or wider-management approach is necessary for them. Here, IBA can complement other approaches such as Partners in Flight and also local initiatives.

IBAs in Saskatchewan

Saskatchewan's Important Bird Areas program was launched with a workshop in Saskatoon on 22 October 1997 when naturalists and birders met to nominate areas in the province that are important for birds. Of the 123 sites nominated, 53 survived program review and were designated Saskatchewan IBAs in 2001 (Figure 1 and Table 1).

An extensive set of published articles and unpublished reports was reviewed to arrive at these designations. Data sources are listed by site on the IBA web site¹. The list

of areas alone is evidence of the diversity of birds residing in functioning ecosystems in Saskatchewan during all or part of a year, and provides a record for monitoring in the future. In the 53 sites, there are 82 species of birds that are important at least nationally, approximately one fifth of all bird species in Saskatchewan.

On 1 February 1999, a subset of 13 IBAs was selected by an advisory committee and conservation plans were completed for these in March 2002. A conservation plan is a 50-100 page document that describes the ecosystem of which the birds are a part, the area's land use, conservation needs and conservation opportunities as identified by community and other stakeholders.

Of the 13 sites for which conservation plans have been developed, two focus on grasslands (Govenlock, Nashlyn and Battle Creek IBA, and Colgate Prairie IBA), one on a marsh-lake-upland complex (Cumberland Marshes IBA), and the remainder on water bodies. For five lake IBAs, the adjacent upland is as important as the wetland in the ecology of IBA birds; for these areas the IBA has been expanded to include the entire watershed (Redberry, Chaplin, Old Wives and Reed lakes, and Manitou Lake area) or portions of watersheds.

Working with the local communities, IBA Saskatchewan has been involved in field trips with schools (Figure 2), and has supported local communities in their desire to protect vulnerable areas and species. For example, IBA Saskatchewan is collaborating with Saskatchewan Environment and the Prairie Farm Rehabilitation Administration in a study of silver sage communities in relation to a decline in Greater Sage Grouse in SW Saskatchewan. Projects are underway in the Wood River watershed to influence water quality and quantity for local people and birds at Chaplin and Old Wives lakes. A study has been completed by members of the Centre for Studies in Agriculture, Law and Environment that

Table 1. IBAs in Saskatchewan showing their significance status (G=Global, C=Continental, N=National) and the 82 bird species involved in classification. Numbers in bold are species for which the site received its status.

Site, Status	Bird species/groups (see key at bottom of this table)
Areas with conservation plans	
Chaplin Lake, G	1, 4 , 13, 51 , 53, 55, 63 , 65 , 68, 70 , 77 , 81 , C
Colgate Prairie, N	13 , 25
Cumberland Marshes, G	3, 7, 15, 16 , 19 , 28 , 44 , 56 , 58 , 73 , E
Galloway and Miry Bay, G	15 , 33 , 64 , D, E
Govenlock-Nashlyn-Battle Creek Grasslands, N	12, 13 , 25 , 32 , 52 , 62
Luck Lake, G	27 , 33 , 35 , 39 , 40, 45, 59, 64 , 72, 73 , 79 , 82 , C, D , E
Manitou Lake Area, G	15, 15, 38, 51 , 55 , 56, 63 , 70 , C, E
Old Wives Lake, G	1, 3 , 9, 16 , 21, 22, 27, 30, 30, 51, 51, 57, 63 , 65 , 68, 70 , 73, 75, A, C, E
Quill Lakes, G	1, 1, 3, 4, 8, 23, 25, 35 , 37 , 40, 51 , 55 , 64 , 65 , 68, 70 , 77 , 79 , C, D , E
Radisson Lake, G	51, 67, 73 , 79 , E
Redberry Lake, G	3 , 51 78
Reed Lake, G	1, 4, 16, 22, 27 , 39, 48, 51, 53, 55, 56, 65, 70 , 73 , A, C, E
Sandoff Lake, N	51
Additional areas	
Alkali Lake, N	22, 51
Barber Lake, G	16, 25, 38, 59 , E
Basin and Middle Lakes, G	3, 9, 22 , 51, C, E
Big Muddy Lake Area, C	6, 13, 25, 29, 51 , 52, 62, 74, E
Bigstick Lake Plain, G	9, 13, 14, 24, 25, 27 , 36, 51, 57, 81 , E
Blackstrap Coulee, G	7, 11, 26, 27 , 55, 70, 73, 75, A, E
Blaine Lakes, G	63 , C
Buffer Lake, G	4, 35, 51, 55, 63, 65, 79 , C
Cabri Area, N	13 , 25, 44, 59, E
Coteau Lakes, N	51
Dryboro/Burn Lake, N	51
East Lake Diefenbaker, G	51 , 75, E
Eyebrow Lake, N	1, 9 , 17, 24, 25, 27, 28, 38, 60, 66, 69, 80 , E
Fife Lake, C	5, 9, 13, 24, 51 , 75
Foam Lake, N	39, 64, E
Grasslands National Park (east), N	13, 25, 32 , 13, 20, 25, 29, 32, 46
Grasslands National Park (west), N	13 , 20. 25, 29, 32 , 46
Greenwater Lake Provincial Park, N	30, 71
Kazan Lake, G	3 , 22, 30, 49
Kindersley-Elna, G	13, 25, E
Kutawagan Lake, G	33, 37 , 47, 51, 73, E
Lake Lenore, G	3, 9, 9, 15, 22, 30, 51, 61, A, C, E
Landis Lake, G	1, 40, 50 , 51, 55, 63, 70 , C
Last Mountain Lake National Wildlife Area, G	1, 3, 7, 9, 22, 25, 26, 33 , 39 , 40, 40, 41, 45, 51, 55, 64 , 65, 70 , 79 , 80 , 81, B, D , E

Lavalley Lake, G 3, 22, A
 Mantario Hills, C 15, 25, E
 Maple Creek Grasslands, N 13, 25, 30, E
 Midnight Lake, G 79
 Nicolle Flats, N 3, 7, 9, 27, 30, 44, 56, E
 Paysen/Kettlehut Lake, N 11, 21, 22, 24, 26, 27, 28, 48, 75
 Pelican Lake, G 1, 3, 8, 45, 73, 75, 81, C, E
 Ponass Lake, G 39, 64, E
 Porter Lake, G 35
 Primrose Lake, G 3, 14, 21, 22, 30, 34
 Rice Lake, G 9, 15, 24, 27, A, D, E
 South Saskatchewan River (Empress to Lancer Ferry), G
 15, 25, 29, 31, 42, 51, 52, 54, 74, 76, E
 Suggi Lake, G 3, 14, 21, 22, 30, 34, 57, A
 Tobin Lake, G 3, 10, 57, 73
 Valeport Marsh, G 2, 3, 15, 18, 30, 43, 43, 70, E
 Willow Bunch Lake, G 51

Bird species: 1 American Avocet, 2 American Golden Plover, 3 American White Pelican, 4 Baird's Sandpiper, 5 Bank Swallow, 6 Black Rosy-Finch, 7 Black Tern, 8 Black-bellied Plover, 9 Black-crowned Night-Heron, 10 Bonaparte's Gull, 11 Bufflehead, 12 Bullock's Oriole, 13 Burrowing Owl, 14 California Gull, 15 Canada Goose, 16 Canvasback, 17 Cattle Egret, 18 Clark's Grebe, 19 Common Goldeneye, 20 Common Poorwill, 21 Common Tern, 22 Double-crested Cormorant, 23 Dowitcher, 24 Eared Grebe, 25 Ferruginous Hawk, 26 Forster's Tern, 27 Franklin's Gull, 28 Gadwall, 29 Golden Eagle, 30 Great Blue Heron, 31 Great Horned Owl, 32 Greater Sage-Grouse, 33 Greater White-fronted Goose, 34 Herring Gull, 35 Hudsonian Godwit, 36 Lark Bunting, 37 Least Sandpiper, 38 Lesser Scaup, 39 Lesser Snow Goose, 40 Lesser Yellowlegs, 41 Loggerhead Shrike, 42 Long-billed Curlew, 43 Long-billed Dowitcher, 44 Mallard, 45 Marbled Godwit, 46 Mountain Plover, 47 Northern Pintail, 48 Northern Shoveler, 49 Osprey, 50 Pectoral Sandpiper, 51 Piping Plover, 52 Prairie Falcon, 53 Red Knot, 54 Red-headed Woodpecker, 55 Red-necked Phalarope, 56 Redhead, 57 Ring-billed Gull, 59 Ross's Goose, 60 Ruddy Duck, 61 Ruddy Turnstone, 62 Sage Thrasher, 63 Sanderling, 64 Sandhill Crane, 65 Semipalmated Sandpiper, 66 Short-billed Dowitcher, 67 Snow Goose, 68 Snowy Plover, 69 Spotted Sandpiper, 70 Stilt Sandpiper, 71 Trumpeter Swan, 72 Tufted Duck, 73 Tundra Swan, 74 Turkey Vulture, 75 Western Grebe, 76 Western Screech-Owl, 77 White-rumped Sandpiper, 78 White-winged Scoter, 79 Whooping Crane, 80 Willet (Western), 81 Wilson's Phalarope, 82 Yellow Rail.

Bird groups: A Colonial Waterbirds/Seabirds, B Landbird Concentrations, C Shorebirds, D Wading Birds (Hérons, Cranes etc.), E Waterfowl.



Fig. 2. Nestling Ferruginous Hawk encounters Consul Grade 11 & 12 class on a field trip to Govenlock-Nashlyn-Battle Creek IBA on 13 June 2001 ***Joe Schmutz***

examines the various legal mechanisms Saskatchewan communities use to influence resource use in and outside of IBAs. Because the projects are locally driven and ecosystem based, their sustainability- and community-oriented focus is often interdisciplinary.

The Canadian and Saskatchewan IBA program has now moved from site identification and conservation planning to project implementation. It is still possible to add new sites or develop new conservation plans under special circumstances, but such initiatives are now expected to come largely from provincial partners or local communities. The Canadian Nature Federation is maintaining a level of vigilance across all IBAs to identify potential threats and assist local communities in protecting the sites. Toward this end, the Federation has

established a Community Action Fund to support local conservation action in recognized IBAs.

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Margaret A. Skeel kindly provided comments on the manuscript. Darrel Cerkowniak of the Saskatchewan Land Resources Centre, University of Saskatchewan, drafted Figure 1. Robert Wapple and Alan R. Smith compiled the bird data for all nominated areas and this in turn was possible only because of many hours spent afield by amateur and professional biologists.

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RED SQUIRREL PREDATION ON WARBLING VIREO AND YELLOW WARBLER NESTS

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Red squirrels (*Tamiasciurus hudsonicus*) are well known as opportunists that depredate songbird nests and occasionally adult birds.^{6,10} Although eggs and nestlings are not typically considered major food items,¹⁰ predation by red squirrels is believed to be a major source of nest failure for many songbirds.^{1,11} Because predation events at songbird nests are infrequently observed⁷ and predator identity cannot reliably be determined from nest remains,⁴ anecdotal observation of predation events provides useful information regarding the identity of predators at songbird nests. Sealy reported that red squirrels were responsible for 12 of 23 songbird nest predation events observed at Delta Marsh, Manitoba between 1974 and 1994,⁹ excluding egg destruction by species such as wrens² and egg removal in relation to brood parasitism by Brown-headed Cowbirds.⁸ Here, I report three additional incidents of nest predation by red squirrels at Delta Marsh over four field seasons, 1998-2001, one on a Warbling Vireo nest and two on Yellow Warbler nests.

Warbling Vireo nest

On 22 June 1998 at 8:24 pm, the alarm calls of Warbling Vireos drew Robyn Underwood and me toward a vireo nest that I had been monitoring for several days. A red squirrel was on a branch about 0.5 m from the nest, which was 9 m high in an Eastern Cottonwood (*Populus deltoides*). The squirrel held a vireo nestling by the wings and was eating it despite the constant calls and dives from the pair of adult vireos. The attacks, including direct strikes on the

squirrel, persisted for two and a half minutes. The squirrel then carried the nestling to an adjacent tree. The vireos continued to attack the squirrel, which was now about 5 m from the nest, but with less intensity than at the beginning of the event. By 8:35 pm, the vireos had stopped alarm calling and no longer attacked the squirrel. We did not observe what the squirrel ultimately did with the nestling. On 20 June, the vireo nest contained three nestlings approximately 5-6 days old. Evidently, on 22 June the squirrel removed only one nestling because the nest contained two nestlings on 23 June. However, the nest was empty on 25 June, too soon for the young to have fledged.³

Yellow Warbler nests

On 15 June 2001 at 6:50 pm, Robyn Underwood, Spencer Sealy and I observed a red squirrel with an egg in its mouth at a Yellow Warbler nest about 5 m high in a Manitoba Maple (*Acer negundo*). A Yellow Warbler was alarm calling and dove at the squirrel at least once but did not strike it. When the three of us approached the nest to better observe the event, the squirrel climbed about 3 m above the nest where it finished eating the egg before moving off. I do not know the final outcome of this nest.

On 29 June 2001 at 7:05 pm, the alarm calls of several Baltimore Orioles and a pair of Yellow Warblers drew my attention to a red squirrel. The squirrel with a well-feathered nestling in its mouth was running up a tree and away from a Yellow Warbler

nest that was 8 m high in an unidentified tree. The squirrel stopped above the nest and began eating the nestling, while the warblers continued to give alarm calls. At 7:13 pm, the squirrel stopped eating the nestling and wedged what was left of it into a crotch of the tree about 2 m above the nest. The squirrel ran back to the nest where the adult warblers increased the intensity of their defensive response and began diving at it. I did not observe what the squirrel did at the nest, but it appeared that a nestling fell out. Immediately after this, the squirrel ran about 3 m down the tree and jumped over to an adjacent tree, chased by the adult warblers the entire way. The squirrel ran up the second tree and stopped at a height above that of the nest. After several minutes observing the stationary squirrel, I walked to the base of the nest tree and searched for the fallen nestling, but did not see any sign of it. I do not know the final outcome of this nest.

Conclusion

During four summers of work at Delta Marsh, these three incidents were the only nest predation events I observed. Of the seven previous observations of predation on Yellow Warbler nests at Delta Marsh, four were by red squirrels and all of these were during the egg stage.⁹ The two additional observations of predation on Yellow Warbler nests documented here appear to be the first of red squirrel predation on Yellow Warbler nestlings⁵ and provide further evidence that red squirrels are a primary predator on Yellow Warbler nests at Delta Marsh. Although red squirrels have been suspected to be predators on Warbling Vireo nests, little is known about the identity of predators on this species' nests.³ Previously, the only instance of predation on a Warbling Vireo nest observed at Delta Marsh was by a Yellow-headed Blackbird during the egg stage.⁹ My

observation is the first documentation of red squirrel predation on a Warbling Vireo nest.³

Acknowledgments

I thank Spencer Sealy and Robyn Underwood for assistance with field observations and for commenting on this note.

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MORE UNITED STATES TREE SWALLOW RECOVERIES

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Here we report five recent Tree Swallow band encounters. Two swallows had flights between the Alberta foothills and California. A third flew east and was mist-netted in Michigan. We also report the second occasion in which two Tree Swallows, banded in different places on the Canadian prairies, were recovered at the same location in southern Louisiana (the first such occasion² is reproduced as numbers 1 and 2 in Table 1 and Figure 1).

Our previous reports of Tree Swallows banded in Alberta and Saskatchewan showed that this species follows a southeasterly route, with the most distant recoveries reaching South Carolina, Georgia, Mississippi and Louisiana. While a few may stay along the southern Atlantic and Gulf coasts for the winter, most are believed to migrate farther south, to Central America and Cuba during December, January and February, returning to the southern United States by March.⁵

California

Ray Harris caught an adult female Tree Swallow in one of his bluebird houses in the Porcupine Hills north of Pincher Creek, Alberta, on July 7, 1999. It had been banded 1050 km distant at the Modoc National Wildlife Refuge (NWR) near Alturas in northeastern California, on May 3, 1998.¹ Traveling the opposite direction, a nestling banded by George Loades on his Jumping Pound trail southwest of Cochrane, AB, on July 8, 1995, was mist-netted 1175 km distant at Modoc NWR on April 12, 1997.⁴

The Modoc NWR banding was part of the MAPS (Monitoring Avian Productivity and Survivorship) project, opening mist nets

at set time intervals. Since most of the Modoc Tree Swallows raise their young in nestboxes at the site, the presence of migrant swallows coming from and going to southern Alberta was a surprise.

Michigan

A nestling banded near Dundurn, SK, on July 2, 2000 (MIH), was mist-netted 1660 km east-southeast at Vermilion Station, MI, by T. Allen of the Department of Biology at Superior University, on June 17, 2002.

The Vermilion Station is just west of the Whitefish Point banding station, which captures birds, including many raptors, as they cross a narrow part of Lake Superior, west of Sault Ste Marie. The only previous record of a Tree Swallow traveling mainly eastwards was a nestling from the Edmonton area recaptured four years later nesting in Wisconsin.²

Louisiana

Two nestling Tree Swallows were banded four years apart at the same latitude on bluebird trails: one near Olds, AB, on July 4, 1997 (DJS), and one near Pike Lake, SK, on June 25, 2001 (MIH). Both were found dead near Lake Charles, LA, on March 10, 2002, at a distance of 2960 and 2650 km, respectively. John Robinette, a Louisiana Department of Wildlife and Fisheries official, provided the following details:

“Jerry Baker, 1022 Franklin Road, Lake Charles, found a group of around twenty birds, two of which were banded, near his home, on the morning of March 10. He picked up five of the dead birds, including the two with bands, and brought them to my office for identification. They seemed to

have frozen to death during the sudden change in temperature during the night, from the mid-fifties F (about 13 C), to below freezing. This event followed a very mild winter.”

Coupled with the Nebraska weather death (#4 in Table 1),³ it provides evidence that swallow migration is both precarious and severely impacted by weather.

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Where banded in Alberta and Saskatchewan					Where recovered/encountered in the United States				
No. Bander	Band No.	Age*	Latitude deg min deg min	Longitude deg min	Date Y M D	Latitude deg min deg min	Longitude deg min	Date Y M D	How** Distance (km)
Recoveries, 1989 - 1995									
1 M.I.Houston	2021-67115	L	51 40 106	20 Blackstrap L, SK	89/07/03	30 10 93	00 Lake Charles, LA	89/12/18	39 2635
2 D.J. Stiles	2010-91554	L	51 40 113	40 Didsbury, AB	88/06/25	29 40 92	40 Grand Chenier, LA	91/08/23	09 3000
3 D.J. Stiles	2031-62019	AHY F	51 20 114	20 Cochrane, AB	90/06/30	45 10 97	30 Webster, SD	92/07/28	01 1420
4 D.J. Stiles	2151-38482	L	50 40 114	00 DeWinton, AB	95/07/10	41 40 102	20 Crescent Lk, NE	95/09/22	15 1345
California encounter and California banding, 1997 - 1999									
5 D.J. Stiles	2121-85793	L	51 00 114	50 Jumping Pound, AB	95/07/08	41 20 120	30 Alturus, CA	97/04/12	89 1175
6 Modoc NWR	2151-30038	AHY F	41 20 120	30 Alturus, CA	98/05/03	49 40 113	50 Pincher Creek, AB	99/07/07	89 1050
Louisiana recoveries, 2002									
7 D.J. Stiles	3121-35381	L	51 50 113	50 Olds, AB	97/07/04	30 10 93	10 Lake Charles, LA	02/03/10	15 2960
8 M.I.Houston	1651-15937	L	51 50 106	40 Pike Lake, SK	01/06/25	30 10 93	10 Lake Charles, LA	02/03/10	15 2650
Michigan mistnet encounter, 2002									
9 M.I.Houston	1671-60572	L	51 40 106	20 Dundurn, SK	00/07/02	46 40 85	00 Whitefish Pt, MI	02/06/17	89 1660

Nos. 2, 3, 4, 5 & 7 above Banded in Calgary area and recovered in USA
No. 6 above Banded in California and recovered in southwestern Alberta
Nos. 1 & 8 above Banded in Saskatoon area and recovered in Louisiana
No. 9 above Banded in Saskatoon area and recovered in Michigan

*Age: L - Local, unable to fly (nestling); AHY F - After Hatch Year, Female NWR - National Wildlife Refuge
** How Codes: 01 - shot; 09 - killed by owl; 15 - killed by weather; 39 - killed by airplane; 89 - trapped and released

Table 1. Selected Tree Swallow Recoveries, listed chronologically by date of recovery

WING-TAGGING TURKEY VULTURES

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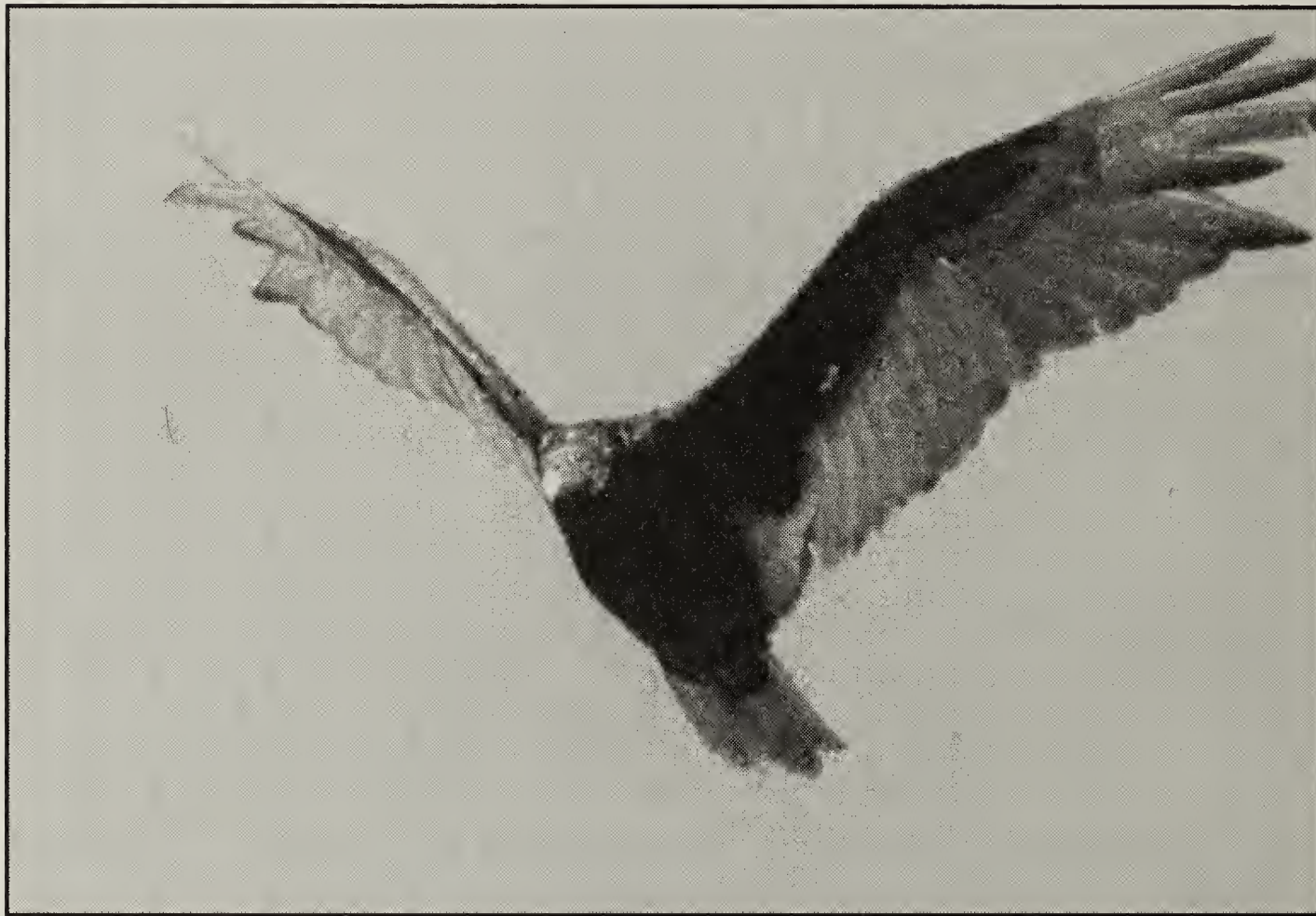


Figure 1. Turkey Vulture adult over Borden site

Turkey Vulture nests typically are in a smelly cave littered with decomposing food items. The “nestling-hiss” of the fledgling, a roar like a fire hose, can be loud and frightening on first encounter. The fledgling’s habit of vomiting when excited by a human visit is even less appealing, as is its propensity to “urohidrosis,” excreting down its legs. The latter habit sometimes results in the liquid excreta hardening like cement around a leg band, then eroding the tarsus. For this reason, about 1976, the banding office ceased issuing leg bands for vultures.

Because of open windows, odor is less of a deterrent to banders when Turkey Vultures nest in abandoned houses. In 2002, there were three pairs of Turkey

Vultures nesting in deserted houses near Saskatoon.¹ In 2003, at least 15 Turkey Vulture pairs were located in abandoned buildings across the width of southern and central Saskatchewan. With the new nest locations and young available, we embarked on a program of marking nestling Turkey Vultures using a patagial tag on the right wing, similar to those used on both wings of every released California Condor.

Since banders are ONLY allowed to apply these tags after they have received hands-on instruction from an expert, one of us (BT) flew to Orange County, California in late June, where Peter H. Bloom of the Western Foundation of Vertebrate Zoology generously provided



Figure 2. Nestling Turkey Vultures at Borden, 23 and 25 days old, weighing 550 and 675 g.

instruction and hospitality. BT observed Pete applying a patagial tag to a Turkey Vulture, and then did another under Pete’s supervision. The tags, one portion on the dorsal side of the wing and the other on the ventral side, are made of herculite fabric with large white letters that can easily be read by telescope or binoculars. They are very similar to ear tags attached to cattle.

Figures 5-12 show the new nest sites where young were tagged in 2003. The

nest near Smuts was in the building occupied last year and illustrated in a previous article.¹ The name of the person who found each nest is given in parentheses in the photo captions. All photographs in this article, with the exception of Figure 3, were taken by Brent Terry.

We learned of three nest failures in 2003. One in a brush pile near Leoville appeared to have been predated by raccoons. Raccoons also took over the attic of a house where another pair of vultures had been seen. The third, a nest found by Art Pask in a granary south of Esterhazy, had a single egg hatch on June 9 but the nestling was in a small unventilated space near the roof and died in the heat wave in late August.

Fourteen young were tagged at the nine successful sites we visited. Young were tagged when they had a wingspan of five feet or more. Three nests (at Smuts, St. Louis, and Rabbit Lake) had one young



Figure 3. Brent Terry and Michael Blom with a young Turkey Vulture tagged near Sturgis on 15 August 2003.
Shirley Johnston

each while the other six nests had two young each; the nest at Nora was visited so late that one of the two nestlings climbed onto the roof and flew away without a tag.

Before and after they learn to fly, the young often sit on the roof of these nest-site houses or on adjacent sheds. They stay near the nest for up to five weeks, flying low at first, but eventually rising to 300 m above ground. By 31 August, the two young near Ranger were flying 8 km from the house in which they had been raised. At eight of nine nests, neighbouring farmers provided reports of sightings (Table 1). We are encouraged by success to date, with no evident morbidity or mortality from the tags.

In the past two summers, we have learned a number of things about the habits of Turkey Vultures that nest in abandoned buildings. When people visit a nest site,

the absence of adult vultures does not mean that the site has been deserted; adults appeared overhead during about half of our visits but may appear with a full crop of food for the young only once every day or two. Nestlings hide in the darkest corner or crevice of the attic, sometimes in a former clothes closet or a recess under the eaves, and a cursory look may not be sufficient to find them. Young do not always give the loud “nestling hiss” but when they do, that is the best way to locate them. All visits to nest site should be short; adults may desert the nest and leave the young to starve if a visitor stays more than one hour or if a visitor tries to prolong their stay by hiding behind a blind.

Next year, we hope even more people will report active vulture nest locations, anywhere in Saskatchewan, to the first author at 306-244-0742 (between 7 a.m. and 9 p.m.).

Table 1 - Sightings after young vultures left nest

Locality	Date of Tagging	Last Date Number Read
Bapaume	Aug 5	Sep 13
Ranger	Aug 5	Sep 12
Mont Nebo	Aug 5	Sep 13
Smuts	Aug 6	Aug 26
St. Louis	Aug 6	Sep 11
Sturgis	Aug 8	Sep 1
Nora	Aug 8	not checked
Wishart	Aug 16	Oct 4
Rabbit Lake	Aug 17	Sep 16

Acknowledgements

We are very grateful for the instruction from Peter Bloom and the people who located the nests. Michael Blom and Marten Stoffel were of great assistance during the tagging process.

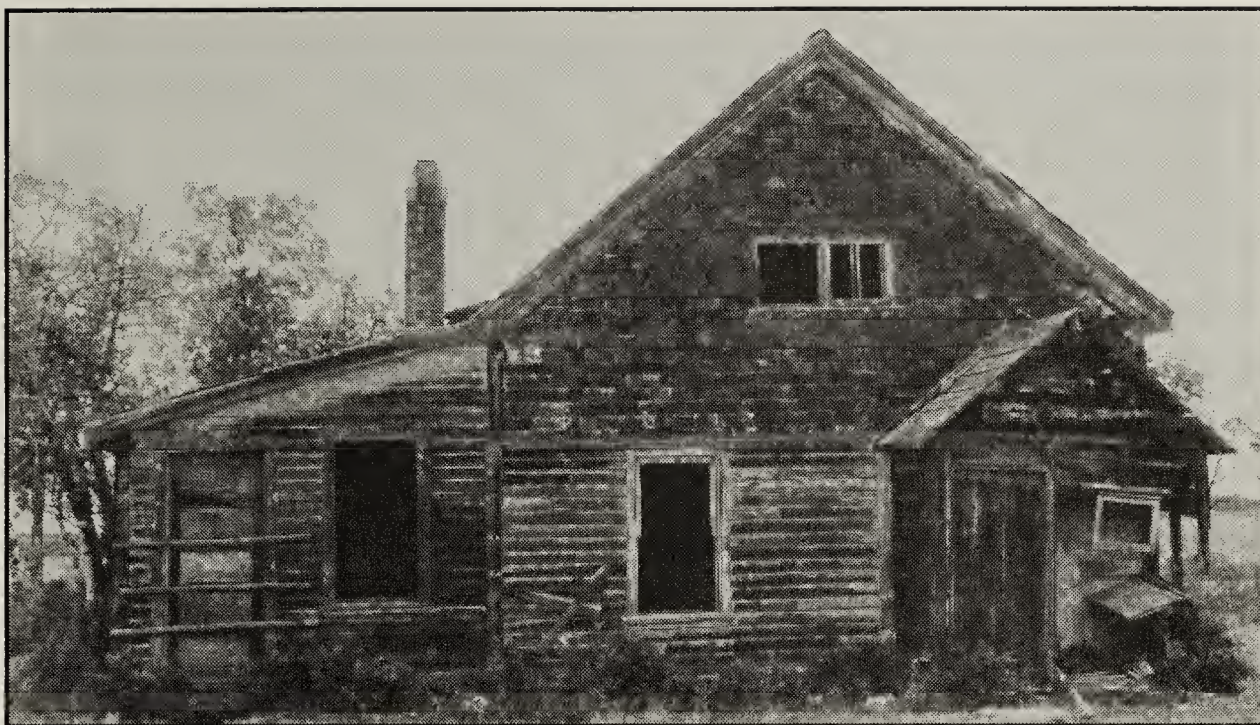


Figure 4. Borden site (Glen Sutherland)

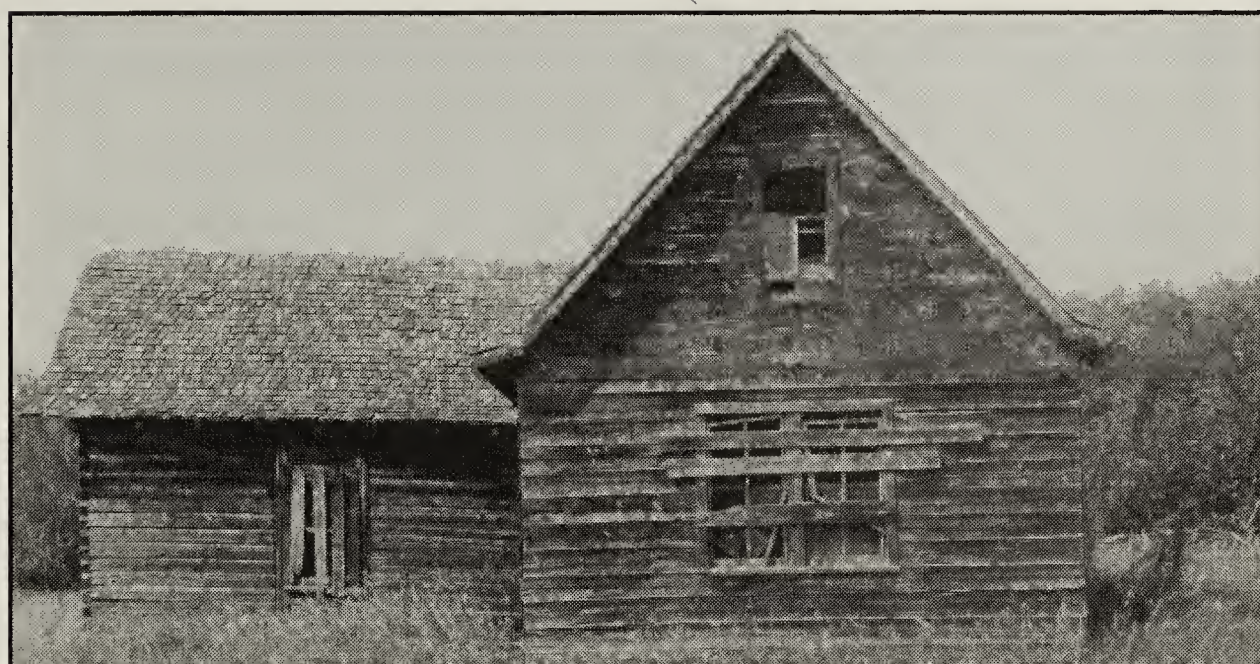


Figure 5. Bapaume site (CSH and BT)



Figure 6. North of Ranger (Ken McDaid)



Figure 7. Mont Nebo site (Mary Houston, Judy Terry, CSH, Henry Tabel, Elizabeth Harms)



Figure 8. St. Louis site (Victor Doderai)



Figure 9. Nora (Ron Iverson)



Figure 10. Sturgis (Peter and Fran Buryk)



Figure 11. Wishart (Gordon Hall)



Figure 12. Rabbit Lake (Bill Brown)

MAMMALS

CLOSE ENCOUNTER WITH A STAR-NOSED MOLE

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This note describes a nocturnal, winter sighting of a Star-nosed Mole, one of Manitoba's least familiar mammals. The encounter is discussed briefly with respect to the species' known distribution and behaviour. Table 1 gives the coordinates for all Manitoba localities mentioned in this note. Table 2 lists additional localities cited in a 1969 *Blue Jay* paper by W.H. Beck and A.E. (Ted) Wilson on this species in the province.²

Exceptionally mild air bathed southern Manitoba on 7 January 2003, with an unheard-of daytime high of 9°C at Pinawa, 120 km ENE of Winnipeg and a staggering 17°C farther west at McCreary. At 10 p.m., a clear sky, no wind, and the temperature still barely below freezing, tempted me (PT) out for a late-evening walk around town.

While following a dimly lit street (Cameron Road) in a wooded area on the northern fringe of town, I saw a small mammal running at the edge of the road. At first sight it resembled a half-grown Norway Rat. Getting closer, I could see a long, tapered snout that suggested a shrew with what appeared to be very prominent whiskers. However, the sturdy tail, roughly 40% of the animal's total length of about 20 cm, was much too long for a Short-tailed Shrew, the only terrestrial shrew of comparable size in Manitoba.

The animal continued on for about 150 m, evidently forced by a low snowbank to follow the street. It finally turned into a small open area near the Pinawa Hospital,

where I briefly cornered it near a pile of snow. In the light of nearby street-lamps, I could see that the "whiskers" were the strange appendages that distinguish the Star-nosed Mole from all other known mammals. These "22 fleshy, finger-like feelers arranged around the tip of the nose" are nicely illustrated by R.W. Sutton in the paper by Beck and Wilson.²

When I attempted to pick the animal up, it squeaked vigorously, then quickly escaped and found a crevice under the snowbank. My last contact with it was the prolonged scrabbling sound as it dug beneath the crusty snow. Melting or slumping snow, caused by the unusually warm weather, had probably driven this mole out of its runways to the surface. It is doubtful that it found safety again before starvation or the returning cold temperatures overtook it.

A semi-aquatic mammal, the Star-nosed Mole is often found in and near streams and rivers; the Pinawa sighting was several hundred metres from the nearest running water on the Pinawa Channel and the Winnipeg River. Relatively long legs give this species greater above-ground mobility than other moles.¹ It is known to be active throughout the year and around the clock, and is more inclined than other moles to forage on the surface.^{1,5} Based on the ease with which it could be overtaken at a brisk walk, the Pinawa mole's speed could be estimated at about 4 km/h, barely half of one published report of four to five miles an hour (about 7 km/h).⁵ Admittedly, the

animal may have been impeded by a slippery surface.

Pinawa lies within the known range of the Star-nosed Mole, which occurs in much of northeastern North America and approaches its western distribution limit in eastern Manitoba, reaching as far north as Island Lake.^{1,2,6,8-11} Most reported localities are in the southeastern corner of the province, 60% of them lying south of the 51st parallel and east of the 96th meridian (Tables 1 and 2). In a report on the mammals of Riding Mountain National Park in southwestern Manitoba, zoologist J. Dewey Soper accepted a 1932 account of three Star-nosed Moles trapped in the southern part of the park, as well as sightings in “moist, loamy areas” east of Wasagamung.^{6,9,10} Reports of occurrences farther west in eastern Saskatchewan, however, are apparently unconfirmed.²

Manitoba sightings are uncommon, and many reports refer to animals either trapped or found dead, with the majority of dated records between December and April.² Several local residents have reported Star-nosed Moles found dead, or accidentally trapped, in window wells in or near Pinawa. The exact circumstances were not recorded for a specimen in the University of Manitoba collection, obtained at Pointe du Bois in December 1958. A specimen in the Manitoba Museum was collected at Decimal, east of Brereton Lake, by a snowplow driver on 28 January 1949.

Kevin Campbell, Assistant Professor at the University of Manitoba’s Department of Zoology, tells us that several graduate students in that department (Alvin Dyck, Doug Watkinson, Kevin Ellison and John Brubacher) have mentioned seeing Star-nosed Moles on top of the snow during winter. Dyck shot a mole, mistaking it for a Norway Rat, on the snow surface near Milner Ridge around 1988. Watkinson captured one while ice fishing near the shore of Big Whiteshell Lake around 1995. Ellison

and Brubacher collected a dead mole on the snow surface while cross-country skiing near Mantario Lake in February 2002. During small-mammal studies near the Taiga Biological Study Station at Wallace Lake, Monica Reid-Wong (pers. comm.) snap-trapped a Star-nosed Mole in August 2002, having inadvertently set the trap at the entrance to the mole’s burrow in alder–tamarack bog habitat.

Twice annually since 1986, James Duncan has censused small mammals in spruce–tamarack bogs in southeastern Manitoba and adjacent Minnesota. He reports that, as of March 2003, he has never trapped a Star-nosed Mole (pers. comm.). The Great Gray Owls he studies rarely take this species as prey. Jim has found mole remains in just two of the many nests he has monitored: one near Spruce Siding, Manitoba on 2 June 1996 and the second in Minnesota’s Roseau Bog on 27 May 1997. Bill Schwartz, who trapped small mammals for many years in a long-running research program at the Whiteshell Laboratories (formerly Whiteshell Nuclear Research Establishment, 10 km west of Pinawa), recalls capturing Star-nosed Moles just twice.

Capture by trapping might be expected to be rare unless the mole’s subterranean runways are specifically targeted. This is borne out by Kevin Campbell’s findings (pers. comm.). His research team (see refs 3, 4 and 7) has succeeded in live-trapping over 30 Star-nosed Moles near their tunnels in southeastern Manitoba, with the majority captured near Caddy Lake in Whiteshell Provincial Park and near Piney. Farther north, several have been obtained near Cat Lake in Nopiming Provincial Park. The highest concentrations of tunnels were found in sedge meadows, especially those with numerous hummocks containing willows and alder (Piney), and those adjacent to beaver ponds (Caddy Lake) or small streams (Cat Lake).

TABLE 1 Coordinates of Manitoba mole localities mentioned in the text

Locality	Latitude (N)	Longitude (W)
Big Whiteshell Lake	50° 05'	95° 20'
Brereton Lake	49° 54'	95° 33'
Caddy Lake	49° 49'	95° 13'
Cat Lake	50° 36'	95° 27'
Decimal	49° 53'	95° 25'
Island Lake	53° 52'	94° 40'
Mantario Lake	50° 00'	95° 10'
Milner Ridge	50° 10'	96° 14'
Pinawa	50° 09'	95° 53'
Piney	49° 05'	95° 59'
Pointe du Bois	50° 18'	95° 33'
Spruce Siding	49° 43'	96° 03'
Wallace Lake	51° 01'	95° 21'
Wasagaming	50° 40'	99° 58'

TABLE 2 Coordinates of additional Star-nosed Mole localities in Manitoba, mentioned by Beck and Wilson²

Locality	Latitude (N)	Longitude (W)
Black River	50° 49'	96° 21'
East Braintree	49° 37'	95° 37'
Elma	49° 52'	95° 54'
Falcon Lake	49° 42'	95° 15'
George Lake	50° 15'	95° 30'
Great Falls	50° 28'	96° 01'
Manigotagan **	51° 07'	96° 18'
Pine Falls	50° 34'	96° 13'
Rennie	49° 51'	95° 33'
Whitemouth	49° 57'	95° 59'
Winnipeg	49° 53'	97° 09'

** Sometimes spelled Manigotogan.

In Wisconsin, according to H.H.T. Jackson, “There are many records of [the Star-nosed Mole] being exposed on the snow, and it also frequently makes runways both on the surface and beneath it.... It is particularly active in winter as an underwater swimmer under the ice.”⁵ Jackson noted further that the species is “particularly vulnerable to attack [by predators] when out on the snow in winter.” He referred to a specimen killed by boys and a dog on 10 February 1918 “during mild weather that followed six weeks of very severe weather” — rather similar circumstances to the 2003 Pinawa sighting.

I had barely left the mole when a Northern Flying Squirrel glided across the street, landed on a utility pole, scampered to the top, and glided away again into the woods. Including myself, this was a third mammal stirred to conspicuous activity by the exceptionally mild weather! Though flying squirrels are common in Pinawa, I rarely encounter them except for their occasional nocturnal visits to bird feeders.

For readers seeking more information on this fascinating mammal, a wealth of information is available on the Internet. Two Canadian sites that include some delightful photographs are:

<http://home.cc.umanitoba.ca/~rmacarth/starnosephotos.html> and <http://www.aquatic.uoguelph.ca/mammals/freshwater/accounts/mole.htm>

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“When the turkey was introduced from America to Europe (about 1530), the word ‘turkey’ was used to describe imported objects that were foreign, strange or exotic. It was at that time a vague term that could refer to Tartary as well as to Asia Minor. Parenthetically, the word is Tartar in origin and means ‘brave’.”

Edward S. Gruson, Words for Birds, p.87

BEE FLIES, BLISTER BEETLES AND THE GRASSHOPPER CONNECTION

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Introduction

In mid-June, 2003, I (CG) noticed many small (9-10 mm long), hairy, bumble bee-like insects congregating on the flowers of my bedding plants. Commonly, there were several of these creatures on a single flower. By coincidence - or so it was initially thought - within a few days, I also saw that my spinach was infested with a small (7-10 mm long), reddish-brown to yellow beetle. Curiously, the beetles were concentrated on the male (pollen-bearing) spinach plants.

In early July, Tyler Wist and Jason Wolfe, while conducting a study of the pollination biology of narrow-leaved purple coneflower (*Echinacea angustifolia*), brought samples of the same insects to me for identification. They also were seeing large numbers on the coneflower flower heads. Densities of up to 17 bee flies and 4 blister beetles per head were observed. Often, both kinds of insects were found on the same head (see back cover photo). Reference to the Department of Biology insect collection confirmed that the bee-like insect was the grasshopper bee fly, *Systoechus vulgaris*, a species that is generally distributed across North America,¹ while the beetle was the golden blister beetle, *Epicauta ferruginea*, which in Canada is found in the prairie provinces and Ontario.³

Bee flies

Despite their appearance, bee flies (Bombyliidae) are 'true' flies, that is, belong

to the order Diptera. Some 800 species of bee flies have been recorded for North America, though the majority of these are restricted in distribution to sandy regions in the south-west of the continent.^{1, 10} They range in length from 4 to 40 mm. In addition to their hairiness, a striking feature of many species is a fearsome-looking 'stinger' that sticks out at the front and may be almost as long as the insect's body. This harmless structure is the proboscis, the insect's mouthparts, used to suck up nectar and ingest pollen.⁸ Like hover flies (Syrphidae; Diptera), with which they may easily be confused, bee flies often hover in mid-air, over flowers or patches of bare ground, before darting a few feet away for a repeat performance. Female bee flies lay their eggs in soil, and the larvae feed on a range of soil-dwelling insects, especially larvae of solitary bees and tiger beetles, and on grasshopper eggs.

Blister beetles

Some 310 species of blister beetles (Meloidae) occur in North America.¹ Their common name derives from the observation that when disturbed, the beetles can exude body fluid from their joints. This fluid contains cantharidin, a toxic material that can cause blisters when rubbed on the skin. There have been frequent reports of livestock poisoning (even deaths in horses) after the animals fed on hay containing blister beetle corpses.^{2, 4} For death to occur, however, large numbers of beetles would



Figure 1. Mating Nuttall's blister beetles. Courtesy of Agriculture and Agri-Food Canada, Lethbridge Research Station.

have to be ingested (depending on the species of beetle, and the size of the horse, from 50 to 350).⁴ Such densities of blister beetles on forage crops are seen only in 'striped' species (e.g., *Epicauta lemniscata* and *E. vittata*) that form aggregations much like a honey-bee swarm. These do not occur in the Canadian Prairies.³

Blister beetles range in length from about 3 to 30 mm. Probably, the species most familiar to readers is Nuttall's blister beetle (*Lytta nuttalli*), a large (20-28 mm) iridescent species with a dark green head, prothorax and abdomen, and purple elytra (Figure 1). Adults are commonly found from early June to early August, preferring to feed on legumes, especially caragana, alfalfa, clovers, lupines and vetches. Other species, including the golden blister beetle, are less choosy and will eat a wide range of wild and cultivated plants. Occasionally, they become pests of crops such as potatoes, tomatoes, sugarbeets and forages.¹⁰

Depending on the species, blister beetle larvae feed on bee larvae or grasshopper eggs. Female blister beetles of some species deposit eggs directly in bees' nests. Others place their eggs on plants from which the newly hatched larvae attach themselves to bees to be carried back to the host's nest.¹⁰ Those whose larvae feed on grasshopper eggs lay a batch of eggs in long cylindrical burrows they dig in soil.⁵ Given the long

odds against finding a host in these circumstances, it is not surprising that an egg batch may comprise several hundred eggs.⁶

Why so many, and is their abundance more than coincidence?

In an average year a few grasshopper bee flies and golden blister beetles may be seen. So, why were there so many in the summer of 2003, and is there a link between the high numbers of the two species? We believe the answer to these questions rests in the fact that the two species have been sharing the same bed! The photograph on the back cover may suggest that the "bed" being shared is the flower head, more specifically, the pollen which is probably the major source of the protein necessary for egg production. However, we propose that the bed in question is a grasshopper egg bed, that is, the site where grasshoppers congregate to lay eggs. Females of both the grasshopper bee fly and the golden blister beetle lay their eggs in soil at grasshopper egg-laying sites.

In contrast to the eggs of most prairie grasshoppers, which lie dormant until the following spring, the bee fly and blister beetle eggs develop rapidly and soon hatch. On hatching, the highly mobile larvae actively search for grasshopper eggs on which to feed. During its development, a single larva of either species can destroy an entire egg pod (about 25 eggs) of smaller grasshoppers such as the clear-winged (*Camnula pellucida*) and lesser migratory (*Melanoplus sanguinipes*), or about half the eggs in the pod of the larger, two-striped grasshopper (*M. bivittatus*).¹⁰ By early fall, larvae are full-grown and molt to the pupal stage in which they pass the winter.

In recent years, a succession of warm, dry springs has been conducive to the development of huge grasshopper populations across the prairies. In the summer of 2002, two-striped and lesser migratory grasshoppers were especially

abundant. We believe that the high numbers of grasshopper bee flies and golden blister beetles in 2003 reflect the high densities of grasshopper egg pods laid the previous year. Earlier studies have shown that a significant proportion of grasshopper egg pods are destroyed as a result of feeding by larval bee flies and blister beetles. Seventy years ago, Criddle noted that larvae of *S. vulgaris*, blister beetles and ground beetles destroyed 20% of the egg pods in Manitoba, with destruction reaching 90% in some regions.⁷ An extensive study in the U.S.A. showed that, on average, in predominantly cropland areas 15% of pods were destroyed by bee fly and blister beetle larvae.⁹ In North Dakota and Montana, the average was more than 25%, with some areas experiencing almost 60% egg-pod destruction.⁹ Such figures confirm that bee fly and blister beetle larvae are important agents in the natural control of grasshoppers. In addition, the adults appear to play a significant role as pollinators of some high-value crops, for example, narrow-leaved purple coneflower. With grasshopper populations expected to remain high for some time, these highly distinctive predators may supplant the dog as 'Man's best friend'!

Acknowledgement

We thank Dr. Art Davis for his comments on a draft of the manuscript.

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“A surprising spectrum of native invertebrates pollinates crop plants : midges, blowflies, soldier flies, syrphid flower flies, hawkmoths, nitidulid beetles, checkered beetles, ladybird beetles, fig wasps, sphecids and vespids wasps, sweat bees, squash and gourd bees, carpenter bees, andrenid bees, bumblebees, mason bees, leafcutter bees, and cactus-loving bees.”

Stephen L. Buchmann and Gary Paul Nabhan, *The Forgotten Pollinators*, 1996. p. 192

NOTES AND LETTERS

EASTERN BLUEBIRDS AT LINTLAW, SK

Because Eastern Bluebirds are so few and far between in our area of east-central Saskatchewan, sightings always come as a pleasant surprise. Seeing *nesting* Eastern Bluebirds is extremely rare and calls for quickly buying a lottery ticket. Members of Nature Saskatchewan who attended the 1999 spring meet in Preeceville may recall a nesting pair near the Assiniboine River just west of Preeceville. This pair has not returned there since.

Spring of 2003 found us returning late to our summer home at Lintlawn, 43 km west of Preeceville. Consequently we didn't get our bird houses up in our yard early enough for their usual residents, the Tree Swallows. In early June, we noticed an Eastern Bluebird resting on our deck. Later we saw a pair hunting in our yard. Getting suspicious, we checked the bird houses and found five young Eastern Bluebirds in one of them. We felt as though we had won the lottery!

We have our fingers crossed that they will return in 2004 but looking back at past



*Eastern Bluebird nesting at Lintlawn
June 2003* Shirley Johnston

history this seems doubtful. But to paraphrase the old song, for a while we did have "bluebirds on our windowsill."

- Don and Shirley Johnston, 102 MacLean Crescent, Saskatoon, SK S7J 2R7



ARACHNOPHOBES BEWARE: RECORD NUMBERS OF THE BANDED ARGIOPE (*Argiope trifasciata*) SEEN IN 2003.

The Banded Argiope (*Argiope trifasciata*) is one of our largest and most dramatic-looking spiders. The female's body, which can be up to an inch long, has striking, narrow bands of white, cream and pale yellow on the abdomen. This widely distributed species occurs across much of North and South America, and extends into grassland regions of western Canada in southern Saskatchewan, Alberta and interior BC. In

Saskatchewan, it is found as far north as Saskatoon.

Banded Argiopes construct large webs in tall grass or against low shrubs and, unlike many of our other orb-weavers, spend the day in the center of their webs. The sturdy webs are capable of capturing and holding grasshoppers which appear to make up a major portion of their diet.

Females mature in late summer, mate with minuscule males—a fraction of their size—and produce egg sacs in autumn. These large bags of white silk, convex on one side, flat on the other, hang in the female's web.

Usually, Banded Argiopes are uncommon in southern Saskatchewan and Alberta, and extremely rare at the northernmost edge of their range. In the previous 30 years I have found only two individuals near Saskatoon. However, this summer several people brought specimens from the Saskatoon area to me or to the University of Saskatchewan and, in one part of the city at least, it was locally abundant. At the north

end of Saskatoon between Marquis Drive and 71st Street, there is a hundred-foot-wide strip of grass separating Highway 11 from

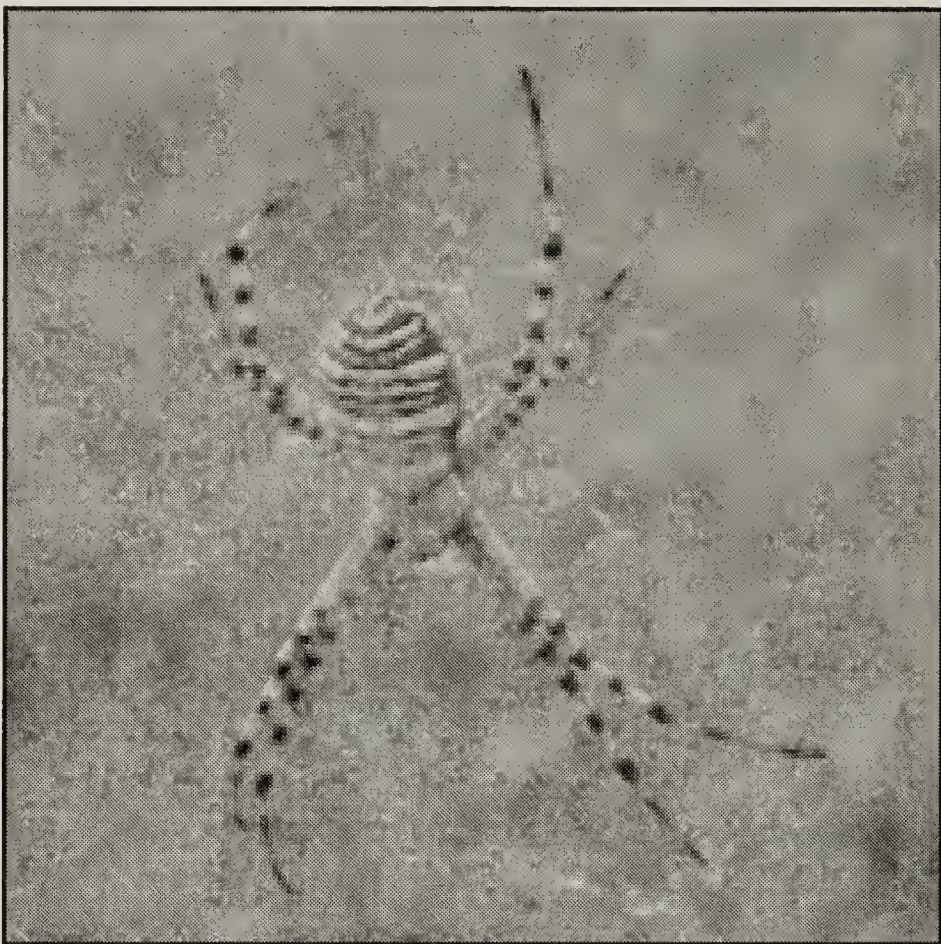


Figure 1. Female Banded Argiope in web Don Buckle



Figure 2. Banded Argiope females showing dorsal (right) and ventral (left) surfaces
Dan L. Johnson

the service road to the east. A row of lamp posts runs down the middle of this strip and in early September, 2 or 3 mature females had strung their webs from the mowed grass to the base of each lamp post.

Keith Roney, of the Royal Saskatchewan Museum, reports that the Banded Argiope, normally rare around Regina, was the most common spider brought to the museum for identification this year. With over 16 reported for the province, it beat the usual record holder, the Plains Orb-weaver (*Araneus gemmoides*), a large species described in an earlier article.¹

According to Dan Johnson (pers. comm.) Banded Argiope numbers have also risen in Alberta. They were rare to uncommon in southern Alberta between 1983, when his

observations began, and 1999, but became suddenly abundant in 2000. Their numbers dropped in 2001 and 2002 then rose again this year, though to levels significantly lower than in 2000.² He thinks that their recent increase in numbers in Alberta is related to drought conditions there.

- Don Buckle, 620 Albert Avenue, Saskatoon, SK S7N 1G7

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LETTERS FROM MATADOR

[In these short notes, Dan Zazelenchuk shares his bird-banding encounters near his home at the Matador Farming Pool farm site. The letters began on September 30 after three Saw-whets were caught near Dan's house; he attracts them to a mist net by playing a recording of their calls. The total number of Saw-whets banded in the area this fall was 25 individuals, a few of which are reported here. Eds]

Northern Saw-whet Owl (Figure 1)
September 29, 2003.

Hey, we're on a roll! I caught my first NSWO, a hatch year female, on Sept. 22 here at the farm. Then, Marten Stoffel and the osprey crew caught an adult male while on the "osprey platform building" trip to Loon Lake on Sept. 27. And then last night, Sept. 29, I caught an adult female here at the farm. So, it would appear that they are on their way south.

It was the first cold night here; the temperature got down to -6°C. I set up the net at 9:00 PM, but all I saw until midnight were a white-tail doe and her fawn which were within 50 feet of my net each time I went out to check. It was very quiet. I could hear the geese and ducks talking to each other at the dams, both of which are over half a mile away. At 11:00 PM, I did hear a small, sharp barking noise from one of the trees behind me in the yard, but it wasn't repeated, and I didn't see anything. I went out at midnight to close up the net so I could get up early for work. This owl was in the second pouch from the bottom, but since the net had sagged a little, it was lying almost on the ground. I think it must have just gotten caught because its wings and feet weren't entangled and there were just a couple of threads around its head. I left the net up until 2:00 AM, but there was no more action. I kept hearing rustling from the Green Ash tree where the owl had gone after release, but on investigation found that the noise was from leaves falling in clumps because of the frost.

grey blues + b + w upper face.

Apr 26 '99 overcast light rain

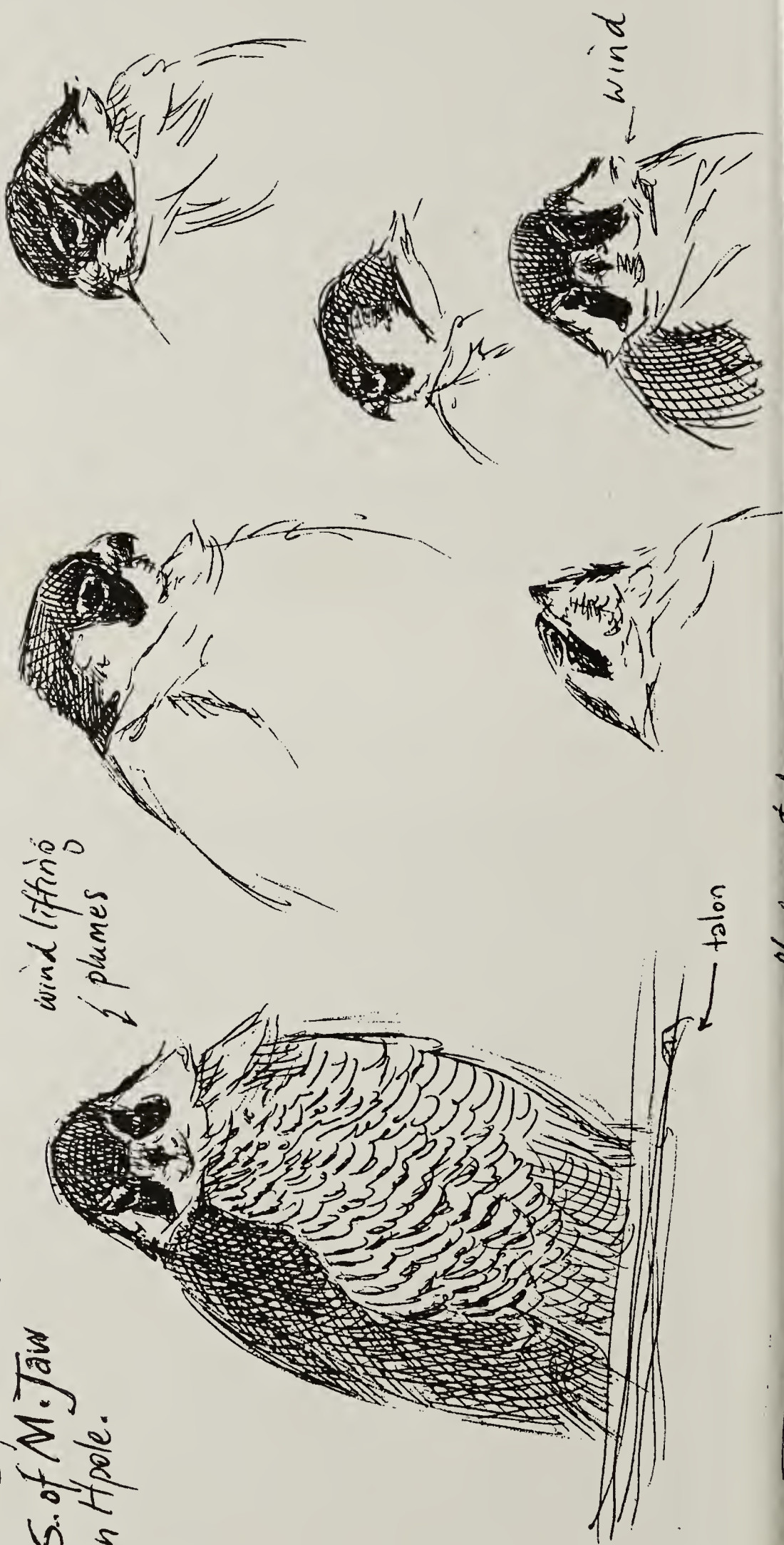
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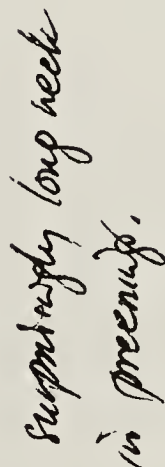
wind lifting
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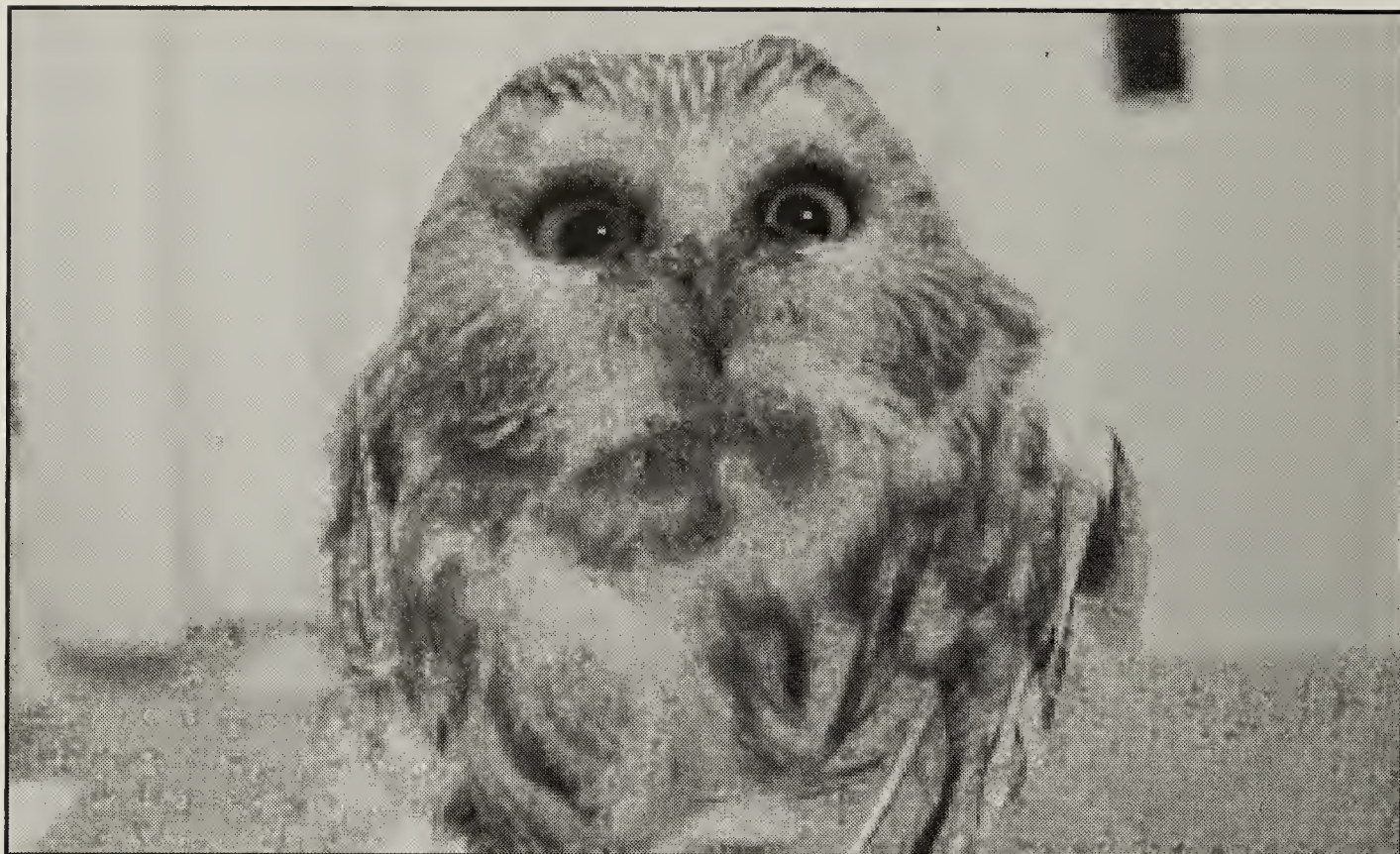


Figure 1. Northern Saw-whet Owl, 29 Sept. 2003: After hatch year female; wt. 93 g; wing chord 143 mm; tail length 68 mm; condition - good.

Northern Saw-whet Owl (Figure 2)
October 6, 2003. 9:15 P.M.

By its appearance, I expected this little guy to be at least a year old, but the moult was all new feathers. I moved the net in behind my garage to try to hide it from the moonlight, but was only partially successful. Even to my eye, the top of the net was clearly visible all night. However, parts of the net were sometimes in shadow, and I guess it was enough. This owl got in behind the net by the CD player and was caught flying away from the sound. While I worked to free it from the net, another owl called from the trees to the northwest. Later, Glen Pederson and I were able to watch that owl (or another one) make several large looping passes at the recording and the net. By that time, the moonlight was even brighter and the owl was able to avoid the net. Throughout the rest of the night, whenever I went to check the net, I could hear at least one and sometimes several Great Horned

Owls calling from the north, likely discouraging any more saw-whets from coming our way. Norman Smith (at the Blue Mountain Banding Station in Boston) had told me that these little owls would remain quiet if you laid them on their backs, almost as if they are hypnotized, and it does work.

Northern Saw-whet Owl (Figure 3)
October 14, 2003. 8:30 P.M.

I checked the net at 7:30 and at 8:00 and there was nothing. I checked at 8:40 and all three of these beauties were there in a triangle near the CD Player. Two are almost certainly female, while the third I have to put down as unknown, although I suspect it is female as well. From 9:00 to 11:15, while the moon was up, I caught no more.

- Dan Zazelenchuk, Box 39, Kyle, SK S0L 1T0. E-mail: danzaz@sasktel.net

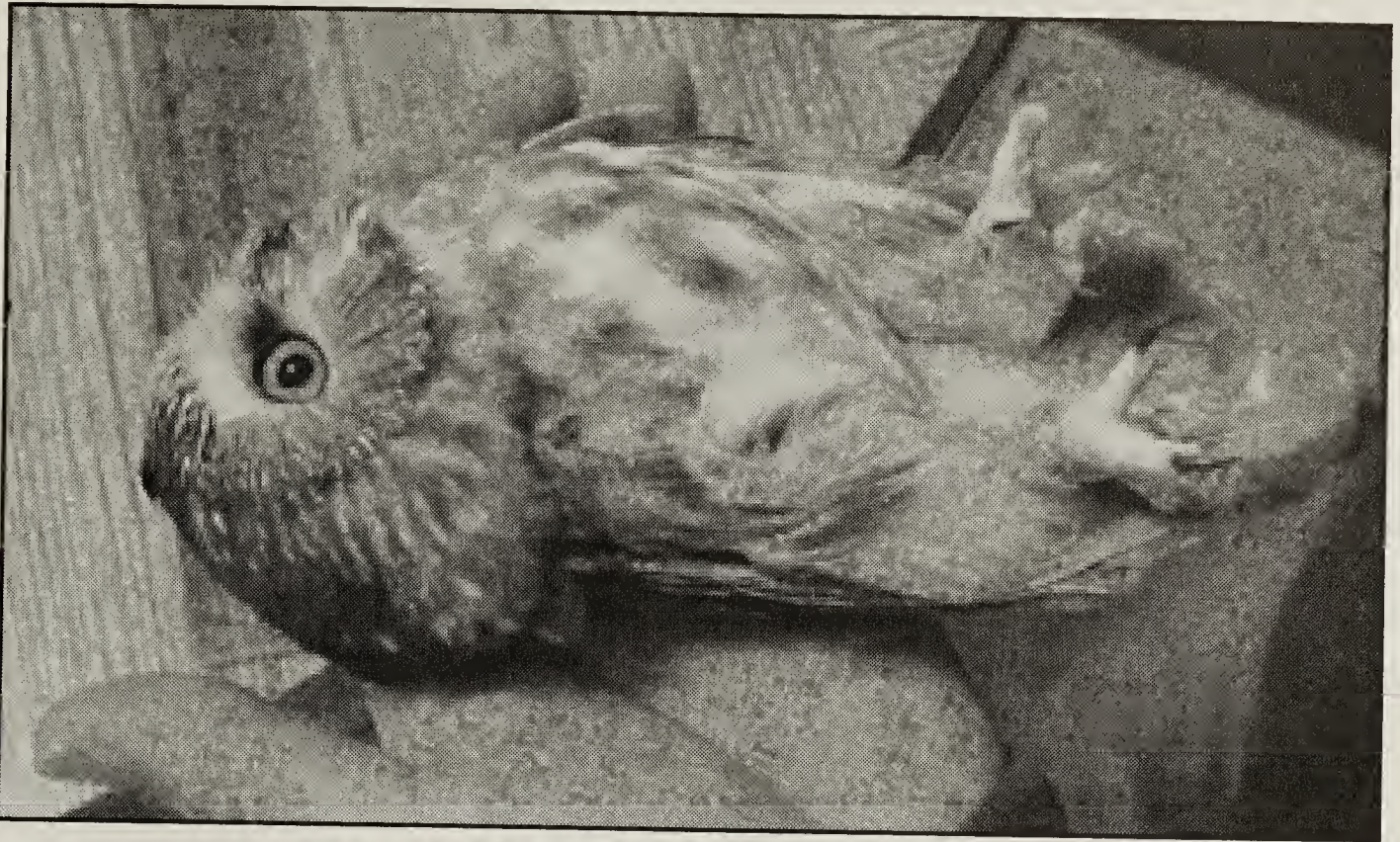


Figure 2. Northern Saw-whet Owl, 6 Oct. 2003: Hatch year male; wt. 86 g; wing chord 137 mm; tail length 66 mm.

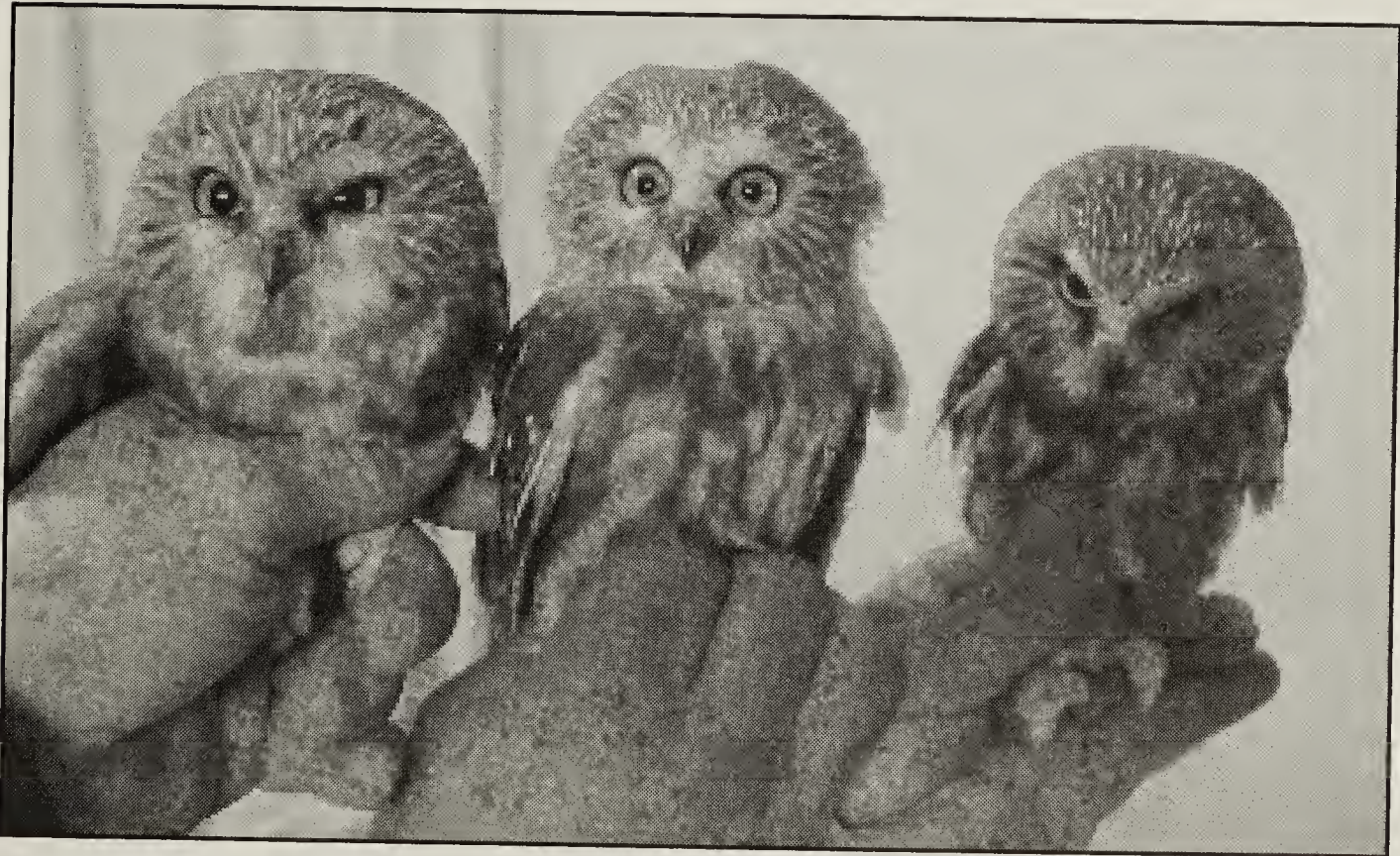


Figure 3. Northern Saw-whet Owls; wt. 85g, 95g, 90g; wing chord 136 mm, 145 mm, 133 mm; tail length- 65 mm, 66 mm, 67 mm.



MICE IN THE FREEZER, OWLS ON THE PORCH: THE LIVES OF NATURALISTS FREDERICK AND FRANCES HAMERSTROM

Helen McGavran Corneli. 2002. The University of Wisconsin Press, Madison, WI. 308 pp plus 30 pp of notes, 41 b/w photos. Hard cover, \$29.95 U.S. ISBN 0-299-18090-5. Also available in soft cover.

Frederick (known as Hammy) and Frances (known as Fran, pronounced *Frahn*) Hamerstrom were extraordinary wildlife biologists. They lived during an era of a new way of thinking about the environment and the interactional forces within it, which grew into the discipline now commonly referred to as ecology. Professionally, their main focus was the Greater Prairie-Chicken, and they became international experts on this species. They also studied other birds and Fran became well known for her knowledge about Golden Eagles and other raptors.

The Hamerstroms were also extraordinary people. Helen Corneli, a neighbour of theirs and professor emeritus of English, introduces the reader to their growing-up years and describes them as privileged aristocrats in the American East; Fran was a debutante, Hammy went to Harvard. Fran was an independent thinker at an early age, smitten with animals, while Hammy was more conservative. They fell in love during their college years and found their way west to study first with Paul Errington at the University of Iowa and then to the marshes of Wisconsin to work with Aldo Leopold. It is during their time in the west until their deaths in the 1990s, that Corneli covers in greatest detail. They lived near Plainfield, Wisconsin for over fifty years, studying the prairie-chicken, teaching, and mentoring numerous students (who were referred to as “gaboons”), and their home became the “salon” of wildlife biology and falconry

intelligentsia for the last four decades of the 20th century.

Drawing extensively on Fran and Hammy’s written records and discussions with them both, as well as on interviews with key individuals who knew and worked with them, Corneli chronicles the Hamerstroms’ professional lives thoroughly and exhaustively, documenting relationships with other professional partners in their work and revealing the tensions between the pursuit of scientific knowledge, bureaucratic employers, and the public. Knowing that the final responsibility of maintaining healthy ecosystems lies with the public, Fran wrote numerous books, both fiction and non-fiction, about our natural world, and did many public speaking engagements to further educate and enlist the support of the public in preserving wildlife habitat.

Although Corneli does an admirable job documenting their professional lives, I feel she focuses more on Hammy than on Fran, thereby implying that professional credibility was his, more so than hers, certainly an arguable point. He, after all, earned the doctorate degree, whereas hers was an honorary PhD. One tends to think of Hammy as the producer of research and scientific publications, and Fran as the producer of popular literature about eagles, hawks and other wildlife. It would be a mistake to judge one as more important or valuable than the other.

Corneli interjects many of the interesting and remarkable facts that punctuated their personal lives, but I do not believe she captures the personal spirit of Fran and Hammy, and, in fairness to Corneli, perhaps it isn't possible to do so. I say this as someone who had the extreme good fortune to have spent time with the Hamerstoms in the early 1970's. To say they were extraordinary does not even begin to capture the essence of this couple. They were, in fact, magical, in a very out-of-this-world way: kind, generous, marvelously eccentric, passionate, knowledgeable, worldly (e.g., they exchanged kids with Konrad Lorenz in the mid-1950's), loyal, and downright wacky at times. Those of us from around the world who were touched by them—wildlife biologists, falconers, academics (and that includes Joe and Sheila Schmutz here in Saskatchewan, who are quoted in the book), students of all ages, wayward souls, and the general public—belong to a special group; mention their name and the response is usually, "Ah yes, the Hamerstoms,"

accompanied by a twinkle in the eye, memories of outrageous occurrences, awesome experiences, warmth, gratitude, and finally, great loss. Hammy died in 1990 and Fran in 1998.

This book is a wonderful addition to any naturalist's library. It covers a longer span than either of Fran's autobiographies (*Strictly for the Chickens* and *My Double Life*), and goes into much greater depth about their professional lives than Fran's other books. Because of this, this book is a thorough and accurate history of the growth of certain segments of ecology as a perspective and a science, as well as an inspiration to aspiring (or arrived) professional biologists, people who are interested in wildlife and/or ecology, falconers, and to every person who marches to the beat of their own drum, be it professionally or personally.

Reviewed by Nikki Gerrard, 1904 Pembina Avenue, Saskatoon, SK S7K 1C3



OWLS OF THE WORLD

JAMES R. DUNCAN 2003. Key Porter Books Ltd. Toronto, ON. 319 pp., 281 colour illustrations, 21 cm by 27.5 cm. ISBN: 1-55263-214-8. Hard cover \$60.00 Cdn

This beautiful and well-written book contains a great deal of meticulously researched information about owls. The purpose of this book is two-fold: to educate readers about owls and to provide reference information in an attractive large-format book. The intended audience is anyone interested in owls, from the layperson to the professional biologist. This is not the first book on owls of the world—*Owls of the World* and *Owls: A Guide to the Owls of the World* also provide global coverage—but it is the most up-to-date book on the subject and is unique in having a chapter on owls in mythology and personal stories from noted owl biologists.^{1,3}

Excellent colour photographs and figures accompany the text and many of the species accounts. Other figures illustrate owls in natural habitats, owl activities such as hunting, courtship and threat displays, human interaction with owls, owl habitats and owls in culture and mythology. There are maps, graphs, and tables to illustrate facts in owl biology.

The first five chapters cover general topics. Chapter one, *The Nature of Owls*, discusses the anatomy, biology, behaviour, evolution and genetics in terms of special adaptations of owls. The second chapter, *Owls in Mythology and Culture*, is a

fascinating global survey about owls in mythology and various human cultures including Mayan, Native North American, Chinese, and Medieval European. Chapter 3, The Study of Owls, is a sampling of contemporary owl studies by Jim Duncan and other researchers as given from a first-person perspective. Threats to Owls, chapter 4, deals with many issues including pesticides, shooting and trapping, predation and competition, habitat loss, invasive alien species, captivity, post modern conservation strategies without modern science, disease and ecto-parasites. The fifth chapter, A World for Owls, contains stories about several studies (Great Horned Owls in Saskatchewan, Ural Owls in Japan, Boreal Owls in western US and Barn Owls in Ontario) and activities such as owl photography, film-making and captive breeding.

The final chapter is Owls of the World, Their Global Conservation Status and General Distribution (mistakenly referred to as Appendix 1 in Chapter 1). This chapter consists of concise, accurate and well-written species accounts for all 205 owl species in the world. Each species account consists of an English common name, scientific name, a field-guide-type description for identification purposes, habitat information, global range (occurrence) map, natural history information and International Union for Conservation of Nature and Natural Resources (IUCN) conservation status. The species account information here is briefer but more up to date than in comparable global or regional owl books, such as *North American Owls: Biology and Natural History*, *Owls of Europe* and *Owls of the Northern Hemisphere*.^{2,4,5} Colour photos are included for 122 species accounts. It is unfortunate it was not possible to include

more photos, especially of the rare and poorly studied owl species. And, a glossary of technical terms would have further enhanced this book.

For many owl species, knowledge is minimal, and thus most information and examples in this book, and similar global works, are from the better-studied owl species in North America and Europe. One of the strengths of this book are the invited articles from noted owl biologists from Canada, USA, Russia, Mexico, Japan, Australia and Finland. Some of the 'local' contributors include Stuart Houston, Geoff Holroyd, Bob Nero, Ted Leighton and Terry Galloway. The personal stories about owls and their research by Jim Duncan and other contributors help make the information 'come alive' for the reader.

I applaud Jim Duncan for this excellent achievement. The book is a pleasure to read and I highly recommend it to anyone with an interest in owls.

Reviewed by Robert Warnock, 3603 White Bay, Regina, SK S4S 7C9. E-mail: warnockr@accesscomm.ca

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BIRDS OF YORKTON-DUCK MOUNTAIN

HOUSTON, C. Stuart and William ANAKA, 2003. No.6, Manley Callin Series, Special Publication No. 24, Saskatchewan Natural History Society. 318 pp. 6 colour photos, 2 b/w photos, 15 b/w sketches, 1 map sheet. ISBN 0-921104-20-0. \$20.00 Can. Available from Nature Saskatchewan

Birds of Yorkton-Duck Mountain (YDM) is number six in the Callin series of regional bird guides in Saskatchewan. It fills the geographic gap between Callin's *Birds of the Qu'Appelle, 1857-1979* and Donald Hooper's *Birds of East-central Saskatchewan* published in 1992.

We are introduced to the Yorkton-Duck Mountain area with a beautiful fold-out map and a discussion of how vegetation and weather conditions have changed over the years. This is the ecological backdrop against which you can expect to see certain birds and animals. Unfortunately, the colour photos - vignettes of the YDM area - are poorly printed. On the other hand, the typeset makes the book easy to read.

Page four cautions the reader that "this is a compendium of information, more for reference and for browsing than for reading." This poses the problem of maintaining a flowing narrative, which has been overcome by interspersing the species accounts with short passages about personal experiences that the authors had while studying the birds in question

The main focus of the book is the species accounts which outline historical sightings, the frequency of the birds (their status from common to endangered), dates for earliest arrival and latest fall departure, breeding records, banding records and band recoveries. For relevant species, the accounts include information from the Prairie Nest Record Scheme, Breeding Bird Surveys, and the Jowsey and Cymbalisty egg collections.

An example of the depth and breadth of research for some species is seen in the

American Bittern write-up, which traces the rise and fall of this reclusive bird of marshland. Few were seen in the dirty thirties, many more as the rains returned in the forties and fifties, but once again they declined in numbers in the 1970s and 80s. Today, it is assumed that they continue to decline in number in the YDM area.

Not to be overlooked are the appendices: Appendix 1 presents the reader with a clear and concise printout of the level of occurrence of all birds that have ever appeared in the study area. Appendix 2 is a summary of the 53 breeding bird surveys that have taken place. Appendices 3 and 4 summarize banding activities in YDM. And Appendix 5 lists the 10-minute blocks, an area described on page 40 as covering roughly 21 by 17 miles.

Unfortunately, the maps that appear with the species accounts are unlabeled. I assume these pinpoint banded bird recoveries in the Americas. Below each map is a diagram, also unlabelled, which I assume to be ten minute blocks of longitude and latitude pinpointing recoveries within the YDM area.

Birds of Yorkton-Duck Mountain has a sense of history and gives credit to all who have played their part in increasing our knowledge of the birds of Yorkton-Duck Mountain area. The cover photograph sets the tone: Isabel Priestley—mentor of many and guiding light to the founding of the natural history societies in Saskatchewan—ecstatic, smiling, holding firmly but gently a not too happy American Bittern. The book also includes short biographies of all those who have contributed to the understanding the birds of YDM. This gives us a sense of those

who have come before and those who are now taking up the torch. While birding is often a solitary activity, it gets its strength from community.

Without question the vigour of *Birds of Yorkton-Duck Mountain* is the scholarship in teasing out the history of YDM coupled with the observations of contemporary observers. The hope is that this work

becomes a benchmark for future observations in the area. In my case, I would be overjoyed to hear that Baird's Sparrows once again thrive in the area with the other grassland or prairie species that have been declining in the Yorkton-Duck Mountain area.

Reviewed by Martin Bailey, E-mail: cmbb@sasktel.net



BUTTERFLIES OF NORTH DAKOTA: AN ATLAS AND GUIDE

RONALD ALAN ROYER. 2003. Minot State University Science Monograph Number 2. Minot State University. Minot, N.D. 192 pp. 15cm x 23 cm. ISBN 0-9619635-1-4. Hard cover \$40.00 US. Available from the Minot University Bookstore at 500 University Avenue West, Minot, North Dakota 58707 (1-800-777-0750)

This book is an update of Dr. Royer's earlier *Butterflies of North Dakota* published in 1988 and covers all 147 species (although the jacket says 148) known to occur in the state.

The author will be familiar to many Saskatchewan butterfly enthusiasts for his role as Great Plains regional editor of *The Lepidopterists' Society* annual reports and for providing his expertise over the years to verify the identification of many specimens sent to him by Saskatchewan butterfly collectors.

I was not instantly taken with the book when it arrived in its plain brown protective jacket. Nor, as a birder who grew up with the Peterson guides, was I pleased to see that the illustration format was one species per page. And when I turned quickly to a few typically confusing species to see if there were any new tips offered for identification, I found none. It was only on taking the time to sit down and read the book from cover to cover that I came to appreciate what a remarkable contribution this book makes to our knowledge of prairie butterflies.

The main annotated list covers 147 species of which 117 are found in Saskatchewan, with a good potential for 9 others to occur here. The common names used generally follow Miller's *The Common Names of North American Butterflies* (1992) and will be familiar to most readers. I noted 14 variations from the North American Butterfly Association's listing of common names but all were reasonably easy to "translate".

The high resolution digital photography used to provide life-size illustrations of each species is outstanding, as is the effort to display both dorsal and ventral views of both sexes whenever this is of value. The only exception is with some of the swallowtails where the book's medium-sized format may have precluded additional life-size images. Male dorsal views are shown for 145 species, male ventral for 144, female dorsal for 126 and female ventral for 123. In addition, there are 52 supplementary images of 35 species that illustrate colour variations, different forms or, for many of the Hairstreaks and Blues, an additional enlarged view. Another 55 good quality colour photographs of butterflies in

the wild are scattered throughout the book.

The text for each species covers identification, habitat, larval food, flight periods, distribution in the state and sources for additional reference on the species. The larval food and flight period information is particularly thorough and valuable since all species are consistently covered which is often not the case in other guides.

Another innovative feature of the book is the distribution maps. Distribution is indicated on a county basis in the state map at the bottom of each species account. The format is such that anyone using the book can easily fill in new county records, and room has been provided adjacent to the map to record details of new distributional data.

The introductory section is short but does provide an overview of the North Dakota environment as well as a useful section on terminology including two figures illustrating

terms related to the butterfly wing. I would have liked to have seen a state map showing the more frequently mentioned locations but one was not included.

Appendices include a listing of 12 species which might potentially occur within the state (9 of these have been found in Saskatchewan) and of six species that have been erroneously reported in the past. A one-page bibliography and a glossary of terms are also provided.

This is a very complete and well thought out book, better organized than the previous edition and with vastly improved plates. The size and format make it practical to carry in the field as well as to display on the coffee table. I would highly recommend this book to the general naturalist and the more serious lepidopterist alike.

Reviewed by Mike Gollop, 51 Welker Crescent, Saskatoon, SK S7H 3M3.



CHECKLIST of the VASCULAR PLANTS OF SASKATCHEWAN and the PROVINCIAL AND NATIONALLY RARE NATIVE PLANTS IN SASKATCHEWAN

VERNON L. HARMS. 2003. University Extension Press, University of Saskatchewan, Saskatoon. 328 pp. ISBN 0-88880-471-7. Soft cover, \$39.95 Cdn.. Available from University Extension Press (email: uep.books@usask.ca)

This book, as you may gather from the title, is not a flashy wildflower book; it is instead a scientific publication packed with useful information. It contains the names and synonyms of all of the vascular plants of Saskatchewan, and gives the rarity status of all of the rare plants in the province. This is the only current list of vascular plants for the province and, in the absence of a

provincial flora, is a necessary addition to the bookshelf of anyone studying, or working with, Saskatchewan plants.

The first part of the book, the checklist, was compiled as an initial step toward producing a Flora of Saskatchewan. It is a list of the native and naturalized vascular plants that occur in Saskatchewan given in

alphabetical order by scientific name. Each entry gives the most recent scientific name plus scientific name synonyms, English common name (or names in some cases) and a series of symbols indicating how common the plant is in Saskatchewan and whether or not the plant is native or introduced.

The second part of the book lists the provincially and nationally rare plants that occur in Saskatchewan. As in the checklist, the plants are listed in alphabetical order by scientific name and are organized by families. Rarity status, shown in symbols, is given for each plant. There are several ranking systems for rarity status and this book gives the ranks (and their definitions) assigned on the basis of several of these: the Canadian Priority Rating, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) candidate list and reports, Nature Conservancy Element Ranks, the Harms ranking, and the Saskatchewan Species at Risk Committee ranking. These ranks play an important role in discovering threatened habitats and in making conservation decisions.

There are two indexes, one to scientific

names and one to common English names, and three appendices. Appendix 1 lists plants previously reported or listed for the province but now excluded. Appendix 2 lists plants classified as extirpated, endangered, threatened or vulnerable according to the author's ranking system and Appendix 3 gives the plants currently excluded from the rarity list. All three are concise lists that give plants by scientific name in alphabetical order.

The scientific basis of this book goes well beyond its value as a reference to current names and rarity status. The current checklist is based on the author's taxonomic review of our provincial flora. All of the species in the checklist have also been reviewed with respect to the current taxonomy. In particular, the numerous revisions made by the *Flora of North America* and John Kartesz's *Biota of North America* Project have been taken into account. For this reason, the checklist is a vital resource to anyone seriously studying our flora.

Reviewed by Randy Olson, 29 Potter Crescent, Saskatoon, SK S7H 3L2.



Baby porcupine, south of Saskatoon, on April 20, 2003

Doug Thorpe

IN MEMORIAM

F. J. HARTLEY FREDEEN, 1920-2003

C. STUART HOUSTON, 863 University Drive, Saskatoon, SK S7N 0J8, and J. FRANK ROY, 650 Costigan Way, Saskatoon, SK S7J 3R2

Hartley Fredeen was born at Macrorie, Saskatchewan, on September 23, 1920 and died in Saskatoon on September 10, 2003. He grew up on a farm in the Coteau Hills, 21 km west of Macrorie. Hartley's mother had been a school teacher who owned a copy of Reed's *Pocket Guide to Birds* and took her pupils on bird walks. While still in his teens, Hartley wrote an article "in defense of the crow," printed in the farm weekly newspaper, the *Western Producer*, which caused naturalists Norman and Stuart Criddle to correspond with him from Manitoba.

Except for a few months in Grade 8, Hartley completed his primary and secondary education without formal schooling. Overcoming tuberculosis and other ailments, Hartley was educated at home by his mother and through correspondence courses from the Department of Education.



Hartley Fredeen holding nestling Ferruginous Hawk in 1940
Olive Arrasmith Fredeen

When Hartley was 18, Mr. Conrad, the local high school principal, wrote a letter in support of his bird identification abilities, allowing him to obtain bird banding permit #369. Between 1938 and 1943, Hartley

banded 1,762 individuals of 74 species, from which he had 28 recoveries. Apart from one Ring-billed Gull at Redberry Lake and one Broad-winged Hawk at Madge Lake, he did all his banding on or near the family farm. From 29 Swainson's Hawk nestlings banded, he had three recoveries, one of which was the first recovery in Argentina of a North American Swainson's Hawk. This notable recovery was reported as such by May Cooke in *Bird-banding* in 1943.¹

Hartley attended the University of Saskatchewan in 1939, obtaining a B.S.A. in 1943 and an M. Sc. in 1951. He became a research scientist in entomology for Canada Agriculture, specializing in black flies and their control. One of the founders of the Saskatchewan Institute of Agrologists and a charter member and past chair of the Entomological Institute of Canada, he was also a member of the International Water Apportionment Board, and a 60-year member of the Agricultural Institute of Canada. He was seconded to work in Montreal for three years to develop and manage a comprehensive insect control program for Expo '67. He also served in West Africa with the World Health Organization. He sat on thesis committees as an adjunct professor, both at the University of Saskatchewan and at Simon Fraser University.

Hartley loved the outdoors. Perhaps

because of his early bouts with illness, he knew the importance of physical activity. He became an ardent hiker, mountain climber, canoeist, speed skater and cyclist, and was happiest when engaged in these activities with members of his family. Hartley was also a long-time member of the Saskatchewan Natural History Society, the Saskatoon Nature Society, and the "Golden Eagles," a seniors group within the Saskatoon Nature Society.

Hartley was strongly committed to an environmental ethic and to social justice. He feared the consequences of corporate expansion and the rise of inappropriate consumerism. In 1997 he and his wife, Margaret, were presented with the Alumni Award of Achievement at the Fall Convocation of the University of Saskatchewan.

Hartley's son Alan concluded the funeral eulogy with a memorable observation about his father: "There was a full harvest moon rising on his last day with us, the same moon under which he came into being in 1920. It wouldn't have escaped his attention. He would have marveled at the sight, remembered past harvests and pondered what part of the planet the sun was illuminating at that moment."

1. Cooke, M. T. 1943. Returns from banded birds (#13). *Bird Banding* 14:67-74

NATURE SASKATCHEWAN NEWS

Every year, Nature Saskatchewan acknowledges the invaluable contributions of volunteers, to the society and to conservation. Nature Saskatchewan had the privilege to present the following awards at the Fall Meet, September 19-21, 2003 at Last Mountain Lake Regional Park.

The **Natural History Scholarship**, awarded to a student enrolled in graduate studies, was presented to Malin Hansen for her graduate research on the control of non-native species (specifically crested wheatgrass) that are spreading into native prairie in Grasslands National Park. Malin has a Bachelor of Science degree in biology from Uppsala University in Sweden and is currently enrolled in a PhD program in Plant Ecology at the University of Regina.

The **Larry Morgotch Award**, presented at the slide show on Friday evening for the most interesting slides and story to go with

them, was given to Frank Roy for his slide show about the hills and valleys of southern Saskatchewan, entitled "Not Horizontal Land."

The **Cliff Shaw Award** recognizes an outstanding article in the last four issues of *Blue Jay*, and gives special consideration to new contributors. David J. Larson received the award for his September 2003 article on the Rose Stem Girdler in southwestern Saskatchewan, an article that would have pleased Cliff Shaw. Cliff was an all-around naturalist, whose interests encompassed photography, botany, horticulture, archaeology, entomology in particular and natural history in general. As a professional newspaperman, his articles were factual and well-written.

The **Conservation Award** is presented to an individual whose total contribution to conservation is outstanding, and may be



Education Director, Deanna Trowsdale-Mutafov (left), presenting Natural History Scholarship to Malin Hansen

Margaret Skeel

presented for a specific project or conservation work over a period of years. This year, the recipient of the award is Mary Houston, a long-time member, and former Vice President and Conservation Director of the society, who has made a very significant contribution to bird studies in Saskatchewan.

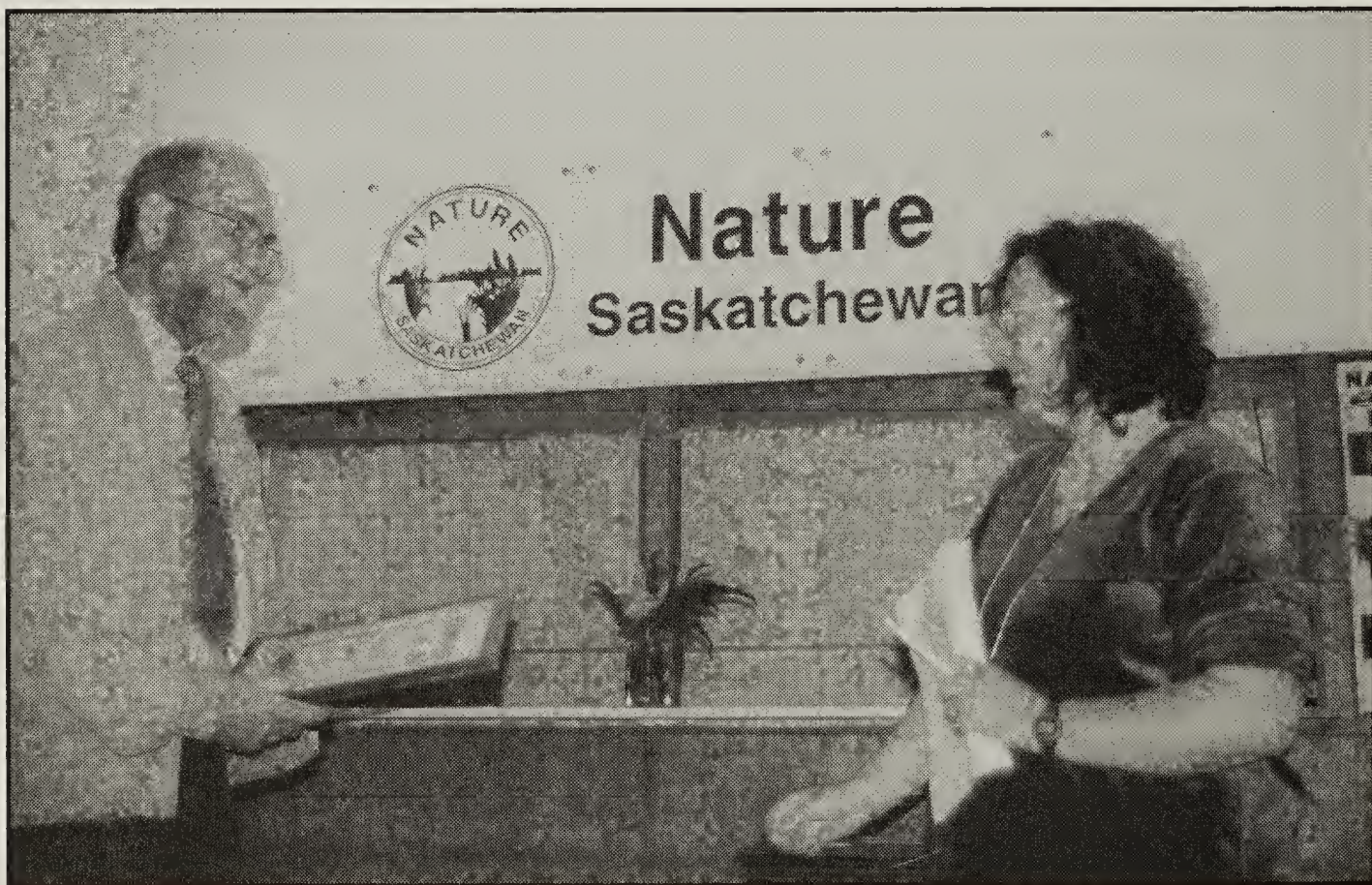
Many of you will be familiar with much of Mary's work and accomplishments. She has published nearly eighty papers in various journals; for about thirty years, she compiled the Annual Saskatchewan Christmas Bird Count (the results were published in the *Blue Jay*). More recently, she wrote 18 species accounts for the *Birds of the Saskatoon Area*, and, with her husband and T.M. Ball, she wrote a book entitled *Eighteenth Century Naturalists of Hudson Bay*. She also contributed to a *Biographical Dictionary of American and Canadian Naturalists* (1997), and to *A Guide to Nature Viewing Sites in and around Saskatoon*.

Mary's banding activities began more than fifty years ago. Since then, during spring and fall migration, and in her backyard in winter,

she has personally applied bands to many, many thousands of birds: pelicans, cormorants, gulls, bluebirds, tree swallows, redpolls, grosbeaks, bohemian waxwings, juncos and other species.

Since 1987, the society has designated members who have made a long and outstanding contribution as **Fellows of the Saskatchewan Natural History Society**. To date, 50 Nature Saskatchewan members have been awarded with this distinction. This year, George Tosh and Michael Williams became "Fellows."

George's photographs are familiar to all Nature Saskatchewan members as he is a frequent contributor of *Blue Jay* covers, the most recent being the Tundra Swans on the front and back covers of the June issue. His colour images of landscapes are a major part of the recently published *Birds of the Saskatoon Area* and a stunning addition to the book. The quality of George's work, his fidelity to the Society and his generosity with his time and materials, are all part of his contribution to Nature Saskatchewan.



George Tosh receiving the "Fellows" award from Society President Michele Williamson

Margaret Skeel

George, now a resident of Saskatoon, is from Harris, SK where he spent most of his life farming and teaching music in local schools.

Michael Williams became seriously interested in birds after joining the Saskatoon Nature Society in 1985 and attending his first Provincial Summer meet at Val Marie. Since that time he has served in several capacities at both the local and provincial level. He was member-at-large on the provincial executive in 1990-91 and president of the Saskatoon Society in 1992 and 1993. One of the stewards of the Turtle Lake Sanctuary, he helps maintain trails and identify plants and birds within its boundaries. Locally, he has been chairman of the Resource Committee and for many years has served on the Field Trip Committee. He participates in the annual frog survey, conducts an annual BBS at Edam, and continues to be a frequent trip leader at Summer and Fall meetings of Nature Saskatchewan. For nearly a decade he has organized three major Christmas bird counts: Saskatoon, Clark's Crossing and Elbow, as well as participating in a fourth count at Pike Lake. Interested in birds, botany, astronomy,

butterflies and photography, Michael is an all-round naturalist whose many contributions deserve the recognition he has received.

The **Long-term Service Award** recognizes individuals who have made an ongoing contribution to the society, through their volunteerism and their energy. Jim Elliot, who has worked tirelessly for Nature Saskatchewan events, programs and displays, is the recipient this year.

The **Volunteer of the Year Award** acknowledges individuals who have demonstrated an especially strong commitment to the society and the award goes to three people this year: our president, Michele Williamson; former Administration director, Treasurer and Bookshop manager, Diane Secoy; and steward-in-residence at the Turtle Lake sanctuary, Muriel Carlson.

- Compiled by Anna Leighton from text contributed by Michele Williamson, Attila Chanady, Frank Roy and Deanna Trowsdale-Mutafov.

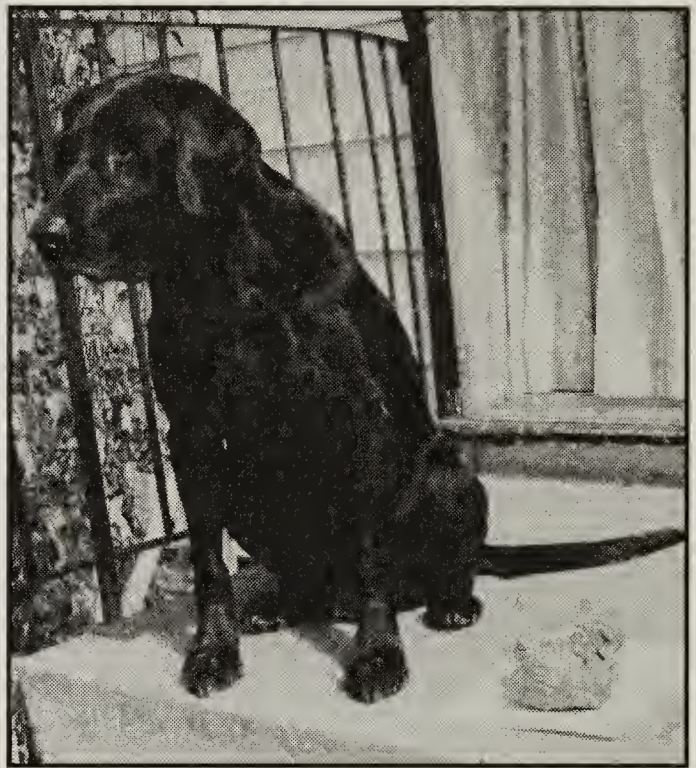
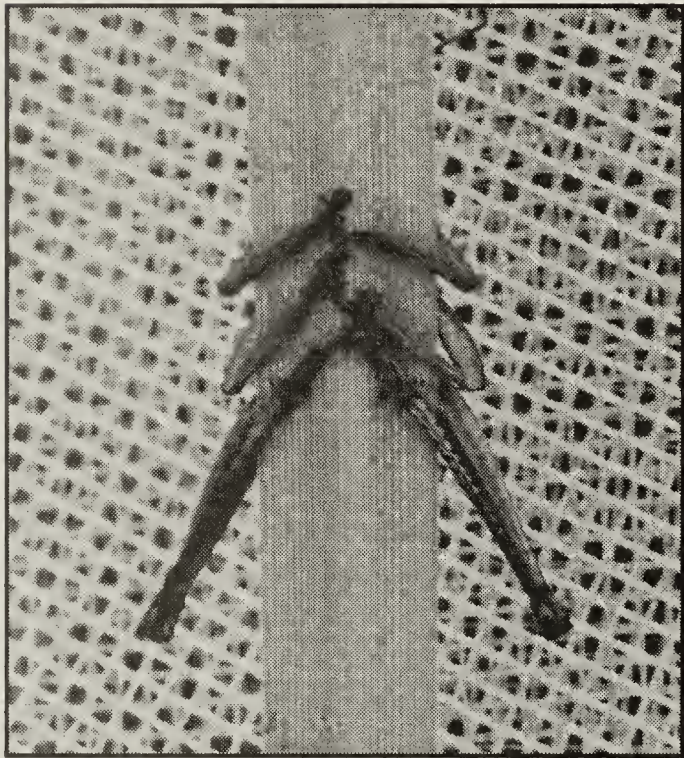


The after-dinner crowd at the September 2003 Fall Meet listens to a Sandhill Crane study update by Phil Taylor
Margaret Skeel

MYSTERY PHOTO

DECEMBER 2003 MYSTERY PHOTO

This immobile object on a blade of grass was photographed near Saskatoon on 6 August 2003. What is it?



Topi with “ear bone”

Ernie Kuyt

ANSWER TO SEPTEMBER 2003 MYSTERY PHOTO



Bowhead Whale “ear bone”

Ernie Kuyt

The photograph shows the “ear bone” of a Bowhead Whale (*Balaena mysticetus*). The ear bone consists of three bones fused together: mastoid process, bulla and petrosal bone. The petrosal bone is extremely dense and hard; it contains and protects the delicate

organs through which mammals hear sounds. In mammals other than whales, these bones are part of the skull. In whales, however, these bones have no bony attachment to the rest of the skull. Instead, they are attached only by soft tissue. This arrangement prevents sound waves from passing to the hearing apparatus from other parts of the body, and makes it possible for whales to hear directionally under water. Such directional hearing is essential to whales’ ability to locate objects by echo-location, for example. Because of its loose attachment to the skull, the ear bone can easily be detached; most fossil whale skulls are missing the ear bone and many fossil ear bones have been found separate from other whale remains. Thanks to Ernie Kuyt for finding this bone and taking its photo.

Explanatory note by Ted Leighton

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